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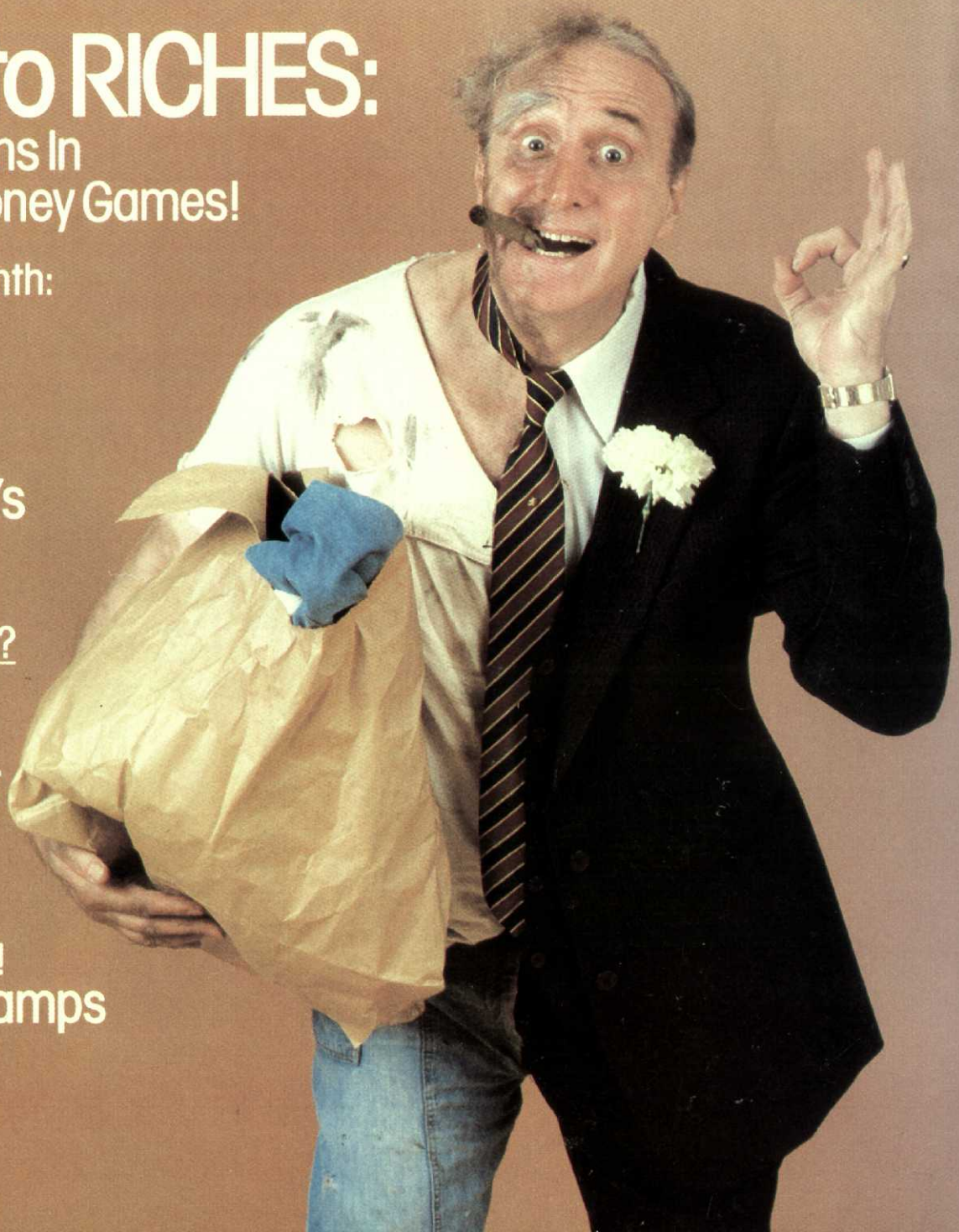

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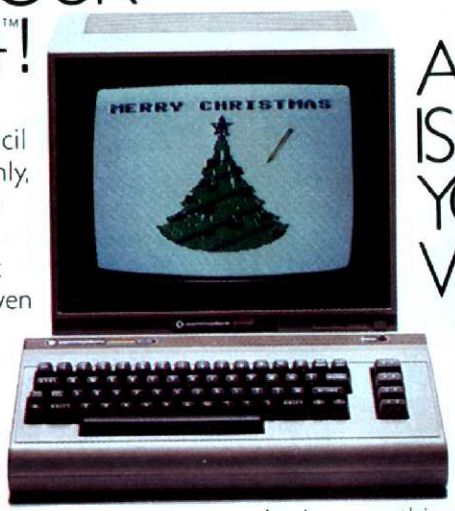

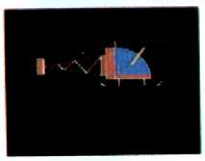

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electronic GAMES

February, 1985

About Our Cover
The talented Jan Leighton demonstrates the rags-to-riches possibilities of **Tycoon**, *EG's Game of the Month.*

Photo by Tom Weihs

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ABC

SWITCH ON 6

HOTLINE 8

READER REPLAY 16

INSTANT PICASSO 18
A survey of art programs and peripherals for the home computer.

FIRST LOOK AT COMMODORE'S TWO NEW MICROS 24

COMPUTER GAMING SECTION

ACTION ARENA 30
Dragon's Lair
Impossible Mission
Mr Robot and His Robot Factory
River Raid
Cavern Creatures
Solar Fox
Thunderbombs
Targon-64
Flak
Lost Tomb

TRANSLATIONS 34
Defender
Transylvania
Dig Dug
Boulder Dash

THINK TANK 36
Zenji
Fortune Builder
Crime and Punishment
Fleet Feet
Compubridge
Bumblebee

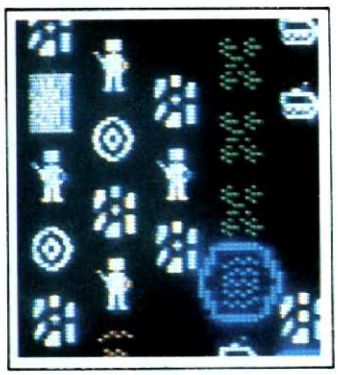
PASSPORT TO ADVENTURE 39
Gwendolyn: Pursuit of a Princess
Pyramid
Seastalker

ELECTRONIC PRESSBOX 41
Tournament Gold

ENTERTAINMENTS 42
Tales of Adventure
Break Street
Story Maker
King Cribbage
Ranch

PLAYING IT SMART 45
Divex
Spelling, Grades 2-8
Antonym Antics

ARTICLES OF WAR 46
Baltic 1985



STRATEGY SESSION 48

CAMPS FOR COMPUTERISTS 50
Tips and caveats for finding the right camp for your junior computerist.

GAME OF THE MONTH 56

ELECTRONIC ENGLAND 60
An exclusive report on the micro-scene in Great Britain.

MASTERING RAID ON BUNGELING BAY 64
Tracie Forman shares her strategies for a successful attack on the Bungeling Empire.

PROGRAMMABLE PARADE 67

INSERT COIN HERE 72

NEW PRODUCTS 73

ARCADE AMERICA 74

Q & A 76

THINGS TO DO WHILE THE COMMODORE LOADS 78
Tongue-in-cheek suggestions for dealing with the foibles of the C-64.

STAND-ALONE SCENE 80

READER POLL 82

COMING ATTRACTIONS 83

CLEAN AND EASY

To many, the workings of a car engine are complicated. To most, unfathomable. If this makes you think mechanics are magicians in coveralls, we've got something that will break the spell.

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IMAGIC

By ARNIE KATZ

The Game Of Love

Welcome to the February *EG!* To me, February means true love, red-satin-covered candy hearts and cards full of hugs and kisses. So if I'm unusually effervescent, even giddy, it's because I'm bursting with Valentine's Day spirit.

That makes me the luckiest guy I know. And not just because this is the time for lovers. I'm lucky because I'm experiencing these sensitive feelings in October, which is when I have to write this editorial. Talk about convenient!

That's the life of an editor. Lead time, the three months between typeset and actual publication, makes editors live in the future. I get Christmas packed up by Labor Day and overdose on Halloween candy in early June. Surprisingly, few people appreciate even superb April Fool jokes at New Year's parties.

What I'd really like to do this editorial is tell you the warmly human and romantic story of how electronic gaming brought my wife and I together. But that's too personal for the public prints. Besides, it never happened. Electronic gaming didn't bring us together, science fiction did. If I were still editing science fiction magazines I'd have a perfect February story. Nuts.

Wait, come to think of it, there was an electronic gaming aspect. All ri-i-i-ight! I walked into the art show at the World Science Fiction Convention, and there she was, hanging paintings of bug-eyed monsters. My heart was going thumpa-thumpa-thumpa, as I suavely sauntered in her direction.

Now, it so happens that at the very same time, this delightful damsel was spotted by that master of science fiction (and long-time acquaintance) Harlan Ellison. Harlan crashed through the milling science fiction fans like a berserk human bowling ball. He reached her almost as quickly as I did. We looked like a lecherous Mutt and Jeff.

Harlan is many, many years older than me, and back then, he earned my yearly salary every week. He immediately displayed his greater worldliness with the type of masterful approach that has won him international fame as the world's greatest playboy (pound for pound). "Nice stockings," he said to her. "Nice legs, too."

How could I top that? How do you come up with something that deserves to hang in the same air?

"Stick with me, baby," I began, "and a decade from now, you'll be the first woman on your block to play **Pac-Man.**"

She couldn't refuse. We had a June wedding (in April, of course), and *Pac-Man* eventually came along right on schedule. Harlan? He's hid his disappointment all these years, compensating by winning gaudy awards and making even more unsightly, germ-carrying money. He even wrote an article for one of *EG*'s tumble-down competitors telling people to give up their electronic games and read more science fiction, but it was too late. Wasn't that a wonderful story? Well, I said it would've been better in a science fiction magazine . . .

Here's a final Valentine's Day thought: When Gorf is out conquering the universe, what does Mrs. Gorf do at night?

See you next month!

electronic GAMES
Volume Three, Number Two
February, 1985

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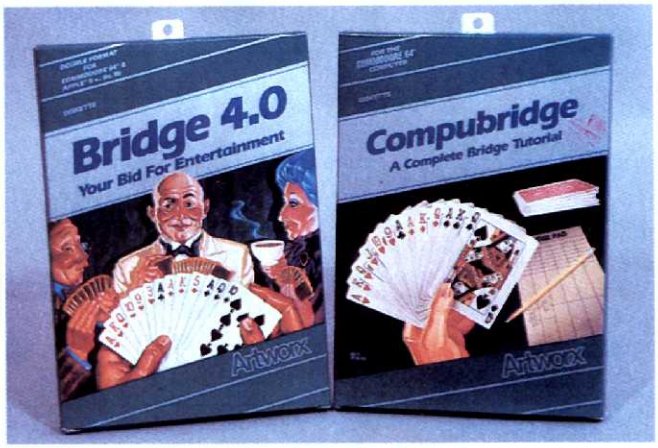
HOTLINE

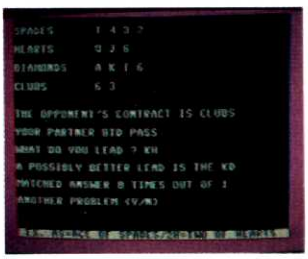
Edited By JOYCE WORLEY

EDU-BEAT

Kids control **Heathcliff** (Datasoft/Atari, C-64) in a cat-and-mouse game that helps them gain reading and spelling skills. The program stars the well-known comic strip cat, in animated high-jinks for students from kindergarden through 4th grade. . . Learn to play bridge with **Compubridge** (Artworx/Apple, Atari, C-64, IBM, Macintosh). Ten chapters of text, and eight quiz sections help new bridge players learn to play, and the computer randomly generates an unlimited number of practice hands to go with the chapters. It's designed so even a novice can learn to play, but the quizzes help sharpen skills for more knowledgeable players. . . Random House's Peanuts programs, originally released for Apple computers, are now available for the C-64, including **Charlie Brown's ABC's**, **Peanuts Maze Marathon**, **Peanuts Picture Puzzlers**, **Snoopy's Skywrite Scrambler**, and **Snoopy to the Rescue**. . . Mastertype (Scarborough/Most systems) led educational software sales for over a year. Now the company is introducing **New Improved Mastertype**. It still features the action game, but adds finger positioning exercises and sentence practice, "outer space" graphics, and improved scoring and skill measurements, to turn every computerist into a skilled typist. . . Stickybear, the lovable bruin from Weekly Reader Family Software, is now available for Apple, Atari and C-64 computers. The handsome bear coaches kids with number, alphabet, and other primary skills, using colorful animated cartoons to deliver the message to preschoolers



Bridge programs by Artworx.



PEANUTS PICTURE PUZZLERS (RANDOM HOUSE)

. . .Two programs from Kidsware! are for tots 4 to 6. **Spell Words!** teaches them to read and write simple words, and **Rhymes With!** uses pictures with end syllable rhymes to teach kids sound-alike words . . .**Robot Odyssey I** (The Learning Company/Apple, IBM) teaches the concept of circuit design, chip and modular design, programming and problem solving for kids 13 and over, as they use a robot construction set in an adventure game.

SENATE TO STOP SOFTWARE RENTALS

The Senate is currently studying legislation to prohibit rentals of computer software. According to ADAPSO, a trade association of about 700 companies in the computer industry, commercial software rentals are often a subterfuge for program piracy. The fees charged for such rentals are small, and the software developer receives little or no compensation.

The Computer Software Protection Act introduced by Republican Senator Charles Mathias (MD) and Democratic Senator Patrick Leahy (VT), who worked closely with ADAPSO in designing the Bill, is expected to be acted on early in 1985. It won't affect rental offers or download systems authorized by the software manufacturer, but will provide penalties for unauthorized commercial rental of programs. The recording industry currently has such protection through a similar law passed in 1984, also introduced by Senator Mathias' Committee.

ADAPSO's president, Jerome L. Dreyer, voiced his support of the proposed Bill: "This is excellent legislation that will help deal with the growing problem of software piracy that is sapping significant revenues from the developers of computer software. We must stem the tide of illegal software copying in this country so that software publishers will be able to reinvest in software development to maintain our nation's lead in this important area."

FAST LOADER SPEEDS C-64

Epyx' Fast Load Cartridge plugs into the cartridge port of the C-64, then works to load disks up to five times faster. Unlike other fast-loaders, this one works with protected disks, and the manufacturer claims that 95% of all commercial programs on the market for the C-64 will work with the Fast Load Cartridge. It costs about the same as a computer game, and makes all your C-64 disks load in a flash, to get you playing sooner.

AVANT-GARDE ACQUIRES HES

Human Engineered Software is to become a wholly-owned subsidiary of Avant-Garde, under an agreement

IMPOSSIBLE MISSION.
YOUR MISSION–TO SAVE THE WORLD.

As a member of the exclusive Anti-Computer Terrorist Squad (ACT), your mission is to find and reach the infamous Elvin, who is holding the world's population hostage under threat of nuclear annihilation. You must negotiate a path through the rooms and tunnels of his headquarters trying to avoid Elvin's robot protectors.

Should you try to outrun or jump over the next robot or play it safe and take the time to assemble the codes needed to deactivate the robots and then to find and stop Elvin.

Use your camera to photograph as many clues as possible to find the password which will allow you to penetrate Elvin's control room.

Your Mission—To Save The World, But Hurry!

One player; joystick controlled.

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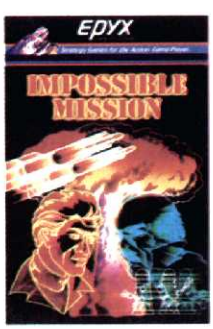


ATTACK OF THE MUTANT CAMELS (HES)

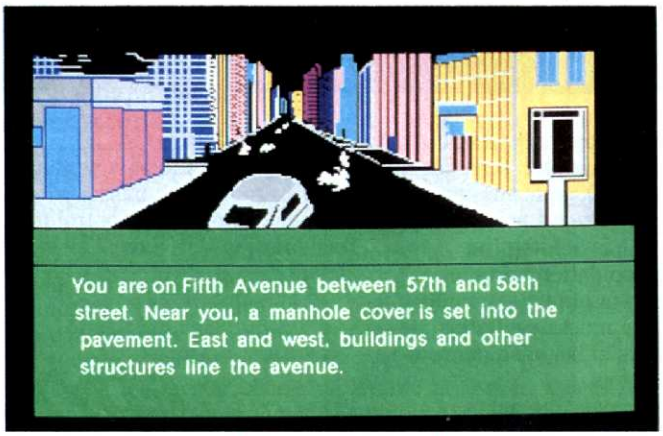
which will grant AG 100% of the common stock of the software publisher. HES, which publishes educational and entertainment software primarily for the Commodore 64, had filed for relief under the Federal Bankruptcy Court prior to reaching the agreement with Avant-Garde, and the final settlement depends on the court's approval for the reorganization plan.

Avant-Garde, publishing software primarily for the IBM and Apple computers, says this acquisition makes AG the leading independent home computer software publisher in the USA.

HESware games included the popular **Attack of the Mutant Camels, Rootin' Tootin', Gridrunner, HES-Games '84** and **Cell Defense**, among others.

SOFTWARE BEAT

Jigsaw Joggle (Orbyte/Apple, C-64) displays a picture, erases it, then presents one piece at a time and keeps track of how many attempts it takes to solve the puzzle. There are unlimited ways to assemble each of the 16 pictures, making this program good for adults and kids. . . Spinnaker's new Trillium interactive computer adventures, based on novels by well-known science fiction writers, cast gamers in starring roles to take charge of the action. **Amazon**, by Michael "The Andromeda Strain" Crighton; **Fahrenheit 451**, a sequel to the book by Ray Bradbury; **Rendezvous With Rama** based on Arthur Clarke's novel; **Dragonworld** by Byron Preiss and Michael Reaves, and **Shadowkeep**, by Alan Dean Foster, are available for Apple and C-64 computers. The games feature color graphics and a text parser that recognizes several hundred words. Hint books and word lists are included in each software package. . . Datasoft has purchased the rights to market three NAMCO classic arcade hits, **Pac-Man**, **Dig-Dug** and **Pole Position**, for Apple, Atari, C-64 and IBM-PC/PCjr computers . . .Datasoft's newest joystick-controlled action thriller is **Conan**. The strong man has to travel through seven chambers, facing foes and obstacles such as pools, lava pits and flying dragons, in his search for wealth and immortality. . . You'll forget **Pong** after you see the visuals of **On-Court Tennis** (Gamestar/C-64). Pick the playing surface (grass, hard court, or clay), the length of the match, then choose from four challengers, each with characteristic playing styles. . . **Mig Alley Ace** (MicroProse/Atari, C-64) is a split-screen simultaneous head-to-head contest, playable either by two human jet jockeys or against the computer in aerial combat simulation. 3-D graphics put the computerist in the middle of a dogfight between Sabre jets . . .Hayden says, "This is the year of the Mac." The company has almost 20 Macintosh programs already including the **Sargon III** chess program, and **Word Challenge**. A third entertainment program in the TimeQuest Adventure Series, **The Holy Grail** sends users on a quest for the goblet used in The Last Supper. . . Broderbund has converted the hit game **Cyborg** for play on the Macintosh. Formerly available only for the Apple, *Cyborg* now has higher screen resolution, faster game response time, sound effects, and a control panel to be used with the Mac mouse. . . **Fortune Builder** (Coleco/ADAM, ColecoVision) lets users plan, build and run their own communities, in a real estate development simulation. Two players build their empires using a special split screen, buy and build properties basing decisions on consumer trends, weather, and other factors. . . **Jumpin' Jimmy** (Progressive Peripherals/C64) is a kangaroo gathering food and treasures on a four continent trip. The screen is triple-split. The top area has the treasure map, with locations markers of Jimmy and other livestock and natives. The center screen views the world, and scrolls 360 degrees. The bottom screen presents scores and casino lighting. The adventurer travels through 25 screens, or can build new continents using the built-in menu driven construction set. . . **Pro Golf Challenge** (Avant-Garde/Apple) contains three true-to-scale professional golf courses. Compu-golfers must study the course, choose the correct club, then deliver a swing. Displays help measure the distance on fairway or green, alert the golfer of hazards, and suggests the best club for the shot. Up to four people can play, in this game that the designers promise will help to improve your score when you hit the greens this summer. . .


You are on Fifth Avenue between 57th and 58th street. Near you, a manhole cover is set into the pavement. East and west, buildings and other structures line the avenue.

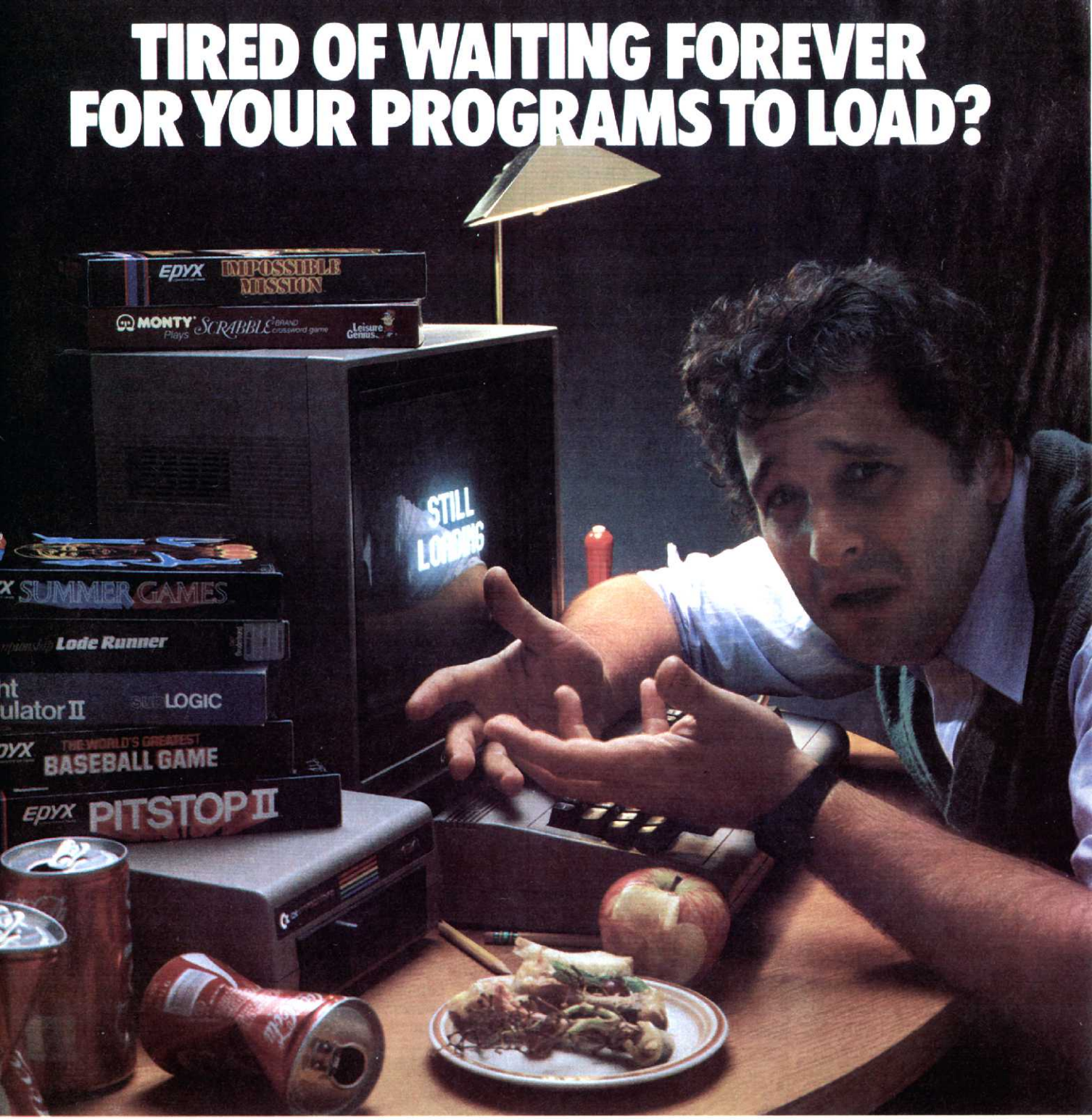
FAHRENHEIT 451 (TRILLIUM)

AT&T GIFTS UNIVERSITIES

American Telephone & Telegraph is going to donate $32 million worth of computers to university computer-science and electrical-engineering departments. The first donations of AT&T micro and mini computers will go to Columbia University in NYC and the University of Illinois. A total of ten universities are slated to receive what AT&T spokesmen describe as "major donations," and another three dozen educational institutions will receive smaller gifts.

In a separate announcement, AT&T revealed an agreement with Olivetti to work on a line of work stations and personal computers to compete with IBM products.

TIRED OF WAITING FOREVER FOR YOUR PROGRAMS TO LOAD?



INTRODUCING THE FAST LOAD CARTRIDGE FROM EPYX.

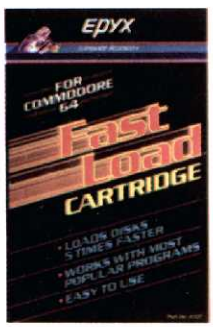
You're tired of waiting forever for your Commodore 64 programs to load. But it's no use glaring at your disk drive. Calling it names won't help, either. It was born slow — a lumbering hippo. You need the FAST LOAD CARTRIDGE from EPYX. FAST LOAD transforms your Commodore 64 disk drive from a lumbering hippo into a leaping gazelle. With FAST LOAD, programs that once took minutes to load are booted up in a matter of seconds.

FAST LOAD can load, save and copy your disks five times faster than normal. It plugs into the cartridge port of your Commodore 64 and goes to work automatically, loading your disks with ease. And that's only the beginning. You can copy a single file, copy the whole disk, send disk commands, and even list directories without erasing programs stored in memory.

And unlike other products, the FAST LOAD CARTRIDGE works with most programs, even copy protected ones, including the most popular computer games.

The FAST LOAD CARTRIDGE from Epyx. Easy to insert, easy to use and five times faster. So why waste time waiting for your disks to load?

Speed them up with FAST LOAD!



EPYX™

HOTLINE

BRODERBUND, WICO TEAM IN HOLIDAY GIVE-AWAY

Buy any Broderbund game and a Wico Command joystick, then receive a free game. The two companies are teaming in a Holiday Bonus, valid on purchases made through January 31, 1985. Special coupons and product box tops must be returned no later than February 15, to receive a free software package from Broderbund. Games available in this special offering are **David's Midnight Magic, Operation Whirlwind, Drol, Spare Change, Gumball,** and **A.E.**

ANNUAL "ARKIES" CEREMONIES DRAW COMPUTER BIGGIES

The Electronic Games Design Awards, popularly called the Arkies, were presented to the top 27 computer, video, educational, stand-alone and arcade games of 1984, in gala ceremonies in New York City on October 24, 1984. Attending the party were representatives of the winning companies, along with designers, programmers, and others who joined with the staff of Electronic Games to admire and praise the software chosen by the readers of EG in the recent Awards balloting. Winning games were displayed so that reporters and guests could get hands-on playtime, before and after the awards were presented to the winners by the editors of Electronic Games.

The Sixth Annual award ceremony also provided a forum for a panel of industry leaders to discuss their views on the past, present, and future of computer entertainment. The panel consisted of Stan Goldberg, president of Micro-Fun, Mike Katz, president of Epyx, Richard Khaleel, president of Scholastic Software, John Mathias, director of entertainment software at Commodore, and Richard Spitalny, president of First Star, in a lively discussion moderated by EG's own Bill Kunkel.

COMMODORE CHIP CHOMP CHAFES ATARI

Amiga Computer Inc., the company that developed an inexpensive personal computer that wowed everyone who got an advance look, has been purchased by Commodore International. The acquisition puts Commodore in control of the semi-conductors developed at Amiga which are expected to form the basis of a new, so-called Third Wave computer currently on the drawing board, and is expected to be announced later this spring.

Atari Corp., also interested in the Amiga chips, filed suit against Amiga, claiming Amiga had a prior agreement to turn the chips over to Atari. Amiga denies this allegation, and Commodore officials say that the suit will not prevent the introduction of the new computer.

COMMODORE SPONSORS CHARITY SKATE-A-THON

Commodore celebrated November, National Ice Skating Month, by sponsoring the March of Dimes in its first annual Skate-A-Thon fund raising campaign, which was presented by the Ice Skating Institute of America.

Commodore's president Marshall Smith gave the March of Dimes its first official Skate-A-Thon contributions in the form of a $1,000 check, followed up with a pledge of more than 2,500 Commodore 16 computers to be awarded as prizes in the national event. The computers were earmarked for skaters who logged the most hours on the ice, and for those who raised the most money at each participating ISIA rink.

Kristen Ellis, the 1985 March of Dimes poster child, was presented with her own Commodore 16 computer at a gala kick-off event, in front of a star-studded audience that included supermodel Carol Alt, Glenn ("One Day At A Time") Scarpelli, and Olympic figure skating champions Dick Button and Toller Cranston.

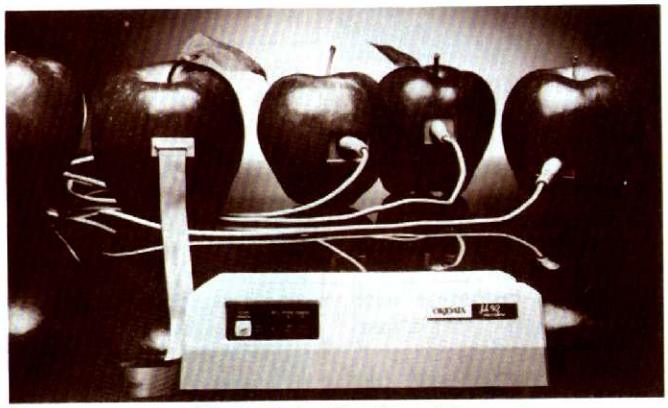
HARDWARE BEAT

Trivia contests are more fun when no one has to watch the clock. Tiger's Trivia Timer stores up to six different time units to provide countdown timing. Battery operated, the timer emits an intermittent beep when the countdown reaches 10, and a continuous beep when time runs out. . . The Animation Station, a new touch-sensitive graphics tablet and cursor controller by Suncom for Apple and C-64 computers, has a built-in character set, several type fonts, and a printer/dump feature so users can make instant copies of anything drawn on screen. Owners can use the Animation Station to create graphics effects, portraits, illustrations, or to write and illustrate letters, maps, etc. It comes with DesignLab, a color software program with a built-in cut & paste feature to electronically reposition elements on screen. Features side-mounted, left- and right-hand function buttons and a joystick emulator feature, for $90 (Apple version), $80 (C-64 version). . . The Coleco disk drive for ADAM, and the ADAMLink Direct Connect Modem is now available. The disk drive stores up to 160K bytes on single-sided double density 5 1/4 in. disks, and two drives can be connected to the ADAM. The modem connects a telephone line to the computer. The peripheral comes with a CompuServe demonstration that allows two free hours of use to sub-

TRIVIA TIMER (TIGER)

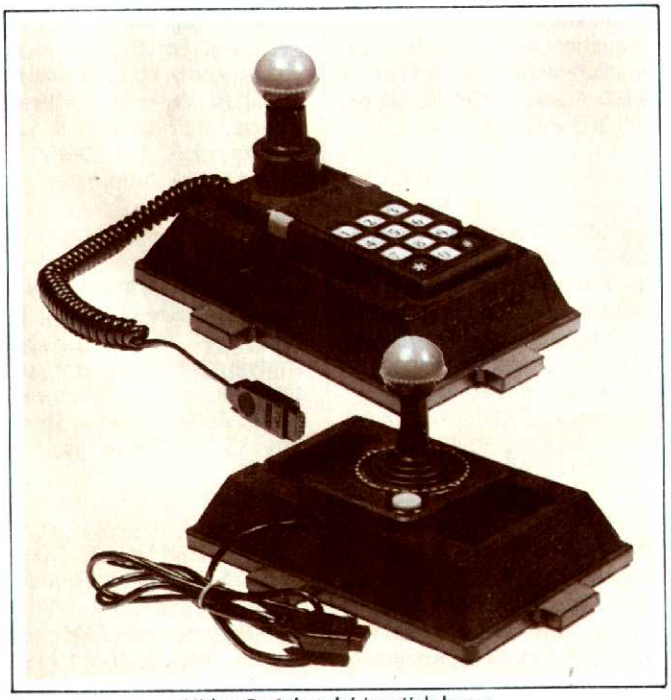
The 1985 Electronic Games Design Award winners with their Arkies.

HARDWARE BEAT



The Okidata Microline printer.

scribers. . . Okidata's Microline 92 & 93 printers are now compatible with all Apple computers, including the IIe, II-plus, IIc, Macintosh and Lisa. Prices start at $569. . . The EVE II Portable Computer weighs only 14 pounds, with a 5-in. monitor, two disk drives, and typewriter-style keyboard. Measuring a diminutive 5 in. high, 15 in. wide, and 14 1/2 deep, it's a 64K CP/M and Apple-compatible personal computer with joystick port and external monitor jack so it can be attached to a large screen monitor when it's not traveling. The EVE, with dual operating systems, 2 Apple-compatible expansion slots, and choice of 40 or 80 column display, can be upgraded to 256K. The system sells for $1595. . .The Whiz Kid, from Video Technology Ltd., looks like a miniature computer, and works on software cards that interface with program cartridges. Comes with a built-in cartridge and over 30 game cards for young (grammar school) students, to give them a headstart on studies, while making kids comfortable with computer-like machines...Video Peripherals' weighted base holds Atari or ColecoVision joysticks firmly, to relieve hand fatigue and eliminate side roll and tipping. Model HS 2 fits both videogame controllers, to let players get a better grip on the joystick handle. Sells for $6.95 in most computer or software stores. . .



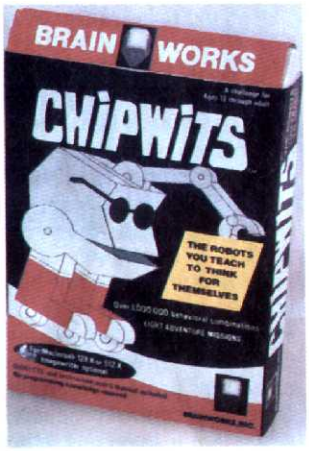
Video Peripherals' joystick bases.

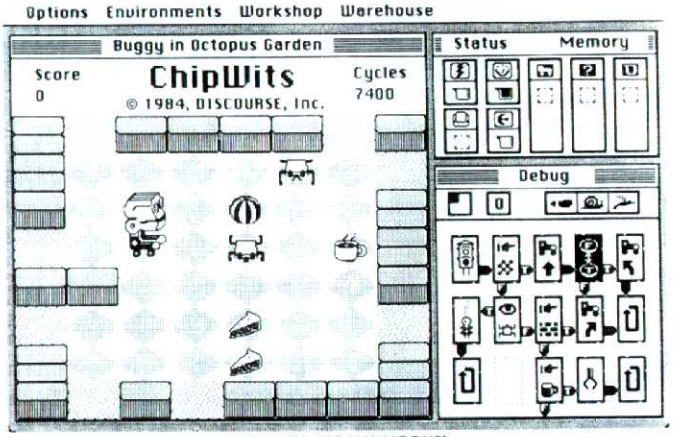
ANIMATED ROBOTS STAR IN CHIPWITS

Chipwits, an educational game for the Macintosh, will be the first release by Brainwork, Inc., the new company headed by former Edu-ware chief Sherwin Steffin. It challenges computerists 12 and up to use icons to program the chips of a robot in such a way as to maximize the on-screen automoton's performance in one of the eight environments included on the disk.

The title is symbolic of Brainworks' intent to concentrate on producing programs which help users learn to learn, rather than tutorials for specific subjects or skills.

Brainworks will also be doing an Apple versions of *Chipwits*. Epyx is reported to be readying Atari and Commodore 64 editions of this novel strategy contest.





CHIPWITS (BRAINWORKS)

CONSUMER BEAT

Broderbund has become a major investor in Synapse Software, according to Synapse prexy Ihor Wolosenko. "Although Broderbund and Synapse will be issuing several projects jointly," explained Ihor, "we will continue as an independent company." . . . Long-time Activision spokesman Tom Lopez has left in order to found his own business-related hardware/software company. "He's busy now drawing up his business plan," said former co-worker Dick Lehrberg of Activision. . . After test marketing in Minneapolis since May, B. Dalton opened three new "Software, etc." departments, in B. Dalton bookstores in San Diego, Los Angeles, and Chicago. The departments offer software, books and some accessories, but no hardware. The California departments will emphasize educational and recreational software, while the others push business programs. B. Dalton, already ranked as the largest seller of computer books in the US, will emphasize products for Apple, Atari, C-64 and IBM computers. . . Many students may have trouble enrolling in college computer courses in the next few years, since computer departments are becoming overburdened with applicants. Some schools are currently trying to limit the size of computer departments, to stem the tide of computer science students, which has more than tripled since 1977. . . Tech-Sketch reduced the price on its light pen graphics system for Atari and C-64, from $69.95 to $49.95, complete with **Micro Illustrator** software. . . Fidelity

scored big points at the Assn. for Computing Material Tournament in October. This chess competition between mainframe computers draws the big muscles of the microprocessor world, so it was a real upset when Fidelity's chess program actually came in second. (The winner of the tournament was Cray-blitz, widely recognized as the world's fastest computer). . . Electronic Specialists' new catalog of protection and interference control products is ready. For a free copy, along with information about surge and spike damage, call ES at 800-225-4876, and request catalog #841. . .

QUOVADIS PRIZE IS SCEPTRE, CASH

British-based The Edge (Softek International Ltd.) is offering a magnificent sceptre to the first computerist who completes its 1,000-screen action/adventure hit **QuoVadis**. Sales are roaring along at such a clip, in fact, that the publisher has sweetened the pot at the end of this particular rainbow by adding £30,000 in cash to the booty

if the first winner comes forward after *QuoVadis* passes the 100,000-copy milestone.

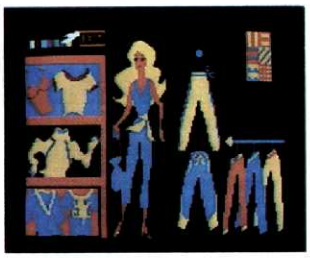
According to Dr. Tim Langdell, Managing Director, the hugely popular program is rapidly approaching the magic number, raising the odds that the eventual winner will haul cash away along with the original sceptre prize.

QuoVadis is available in the United States for the Commodore 64 from The Edge. Yes, we Colonials *are* eligible.

HOTLINE

COMPUTER BARBIE WOWS CONVENTION

Doll lovers at the annual Barbie Convention in New York City were treated to the debut of Epyx' **Barbie Computer Activity Toy**. The doll-on-disk, a high-tech entertainment for young

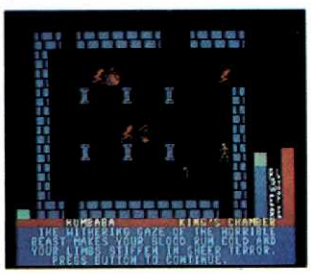


computerists, lets joystick wielders take Barbie on a shopping spree through five boutiques for clothes, shoes or swimwear, change her hairstyle or color, and make dates with boyfriend Ken on the phone.

At the convention, which attracted visitors from around the world, Barbie owners demonstrated their dolls, saw valuable 1951 originals on display, participated in Barbie costume parties, and admired the Silver Edition Tiffany Barbie, created to honor Barbie's 25th anniversary.

ADVENTURE CONSTRUCTION SET BUILDS DIGITAL DREAMWORLDS

Stuart Smith, whose **Ali Baba** and **Return of Heracles** (both Quality Software/Atari) set the standard for action/adventures, is letting everyone get into the design-a-universe business with **Adventure Construction Set** (Electronic Arts/Commodore



64). The two-disk program uses techniques pioneered by Bill Budge in **Pinball Construction Set** (Electronic Arts/Most systems) to make it surprisingly simple for a computerist to design a fantasy, science fiction or mystery adventure complete with sounds, graphics, magic, treasure and monsters.

If anything, Smith has further improved the systems which seemed so polished in *Heracles*, and the graphics are decidedly superior to his earlier efforts. The package also includes an on-disk tutorial for creating adventure games and two short adventures which demonstrate some of the possibilities of the program.

NEW SURVEY STUDIES COMPUTER OWNERS

Consumers & Computers 84, a study by Future Computing, shows that 10% of all U.S. households already own computers, and this figure should grow to 16% by the end of 1985. Surveys taken by the Texas research firm show that most home computer owners have high incomes, and work in professional or technical occupations. The majority are between ages 30-39, married, and have 2-3 children currently in school.

COMING EVENTS

INTERNATIONAL SOFTWARE UPDATE, Feb. 16-20, 1985, Waiohai Resort Hotel, Kauai, Hawaii. For information, contact Raging Bear Productions, 21 Tamal Vista Dr., #175, Corte Madera, CA 94925, or call 415-924-1194.

INTERNATIONAL GAMING BUSINESS EXPO, Feb. 26-27, 1985, Las Vegas Convention Center, Las Vegas, Nevada. An event for the gaming, lottery and wagering industry; no public will be admitted. For information, write Conference Management Corp., P.O. Box 4990, Norwalk, CN 06856, or call 203-852-0500.

AMUSEMENT SHOWCASE INTERNATIONAL; March 1-3, 1985, Expocenter Downtown, Chicago, IL. Showcase for the coin-op entertainment industry; no public allowed. For information, write William Glasgow, Sr., Show Manager, Amusement Showcase International, 7237 Lake Street, River Forest, IL 60305, or call 312-771-3290.

MARYLAND COMPUTER SHOW & SOFTWARE EXPO; March 22-24, 1985, Convention Center, Baltimore, MD. A public show. Write to CompuShows, Box 3315, Annapolis, MD 21403, or call 800-368-2066.

NYC PERSONAL COMPUTER SHOW #5, March 29-31, Madison Square Garden, New York City. Open to the public, the show features exhibits of hardware and software. Write Ken Gordon Productions, PO Box 13, Franklin Park, NJ 08823, or call 201-297-2526 for information.

SOFTCON, March 31-April 3, 1985, Georgia World Congress Center, Atlanta, GA. This trade show, formerly held in New Orleans, is for software. For the computer industry only, no public will be admitted. Write to Northeast Expos, 822 Boylston St., Chestnut Hill, MA 02167, or call 617-739-2000.

NEW YORK COMPUTER SHOW & SOFTWARE EXPO, April 25-28, 1985, Nassau County Coliseum, Long Island, NY. This is a public showing of equipment and software, and guests are welcome. Write to CompuShow, Box 3315, Annapolis, MD 21403.

VIRGINIA COMPUTER SHOW & SOFTWARE EXPO, April 25-28, 1985, Pavilion, Virginia Beach, VA. Write CompuShow, Box 3315, Annapolis, MD 21403 for information about this public show.

COMING EVENTS

INTERNATIONAL PERSONAL ROBOT CONGRESS & EXPO, May 15-19, 1985, Albuquerque, NM. For more information about this show

for robot enthusiasts, write Robotic Industries Assn., P.O. Box 1366, Dearborn, MI 48121, or call 313-271-7800.

ACM SIGGRAPH '85, July 22-26, San Francisco, CA. The 12th annual conference on computer graphics and interactive techniques, sponsored by The Assoc. for Computing Machinery's Special Interest Group on Computer Graphics. This technical conference features a variety of 1- and 2-day conferences and forums, an art show, film & video show and slide presentations. For information, contact SIGGRAPH '85, Conference Services Office, Smith, Bucklin & Assocts., 111 East Wacker Dr., Chicago, IL 60601, or call 312-644-6610.

YANKEE GROUP SEMINAR: THE HOME MARKET, Oct. 8-9, New York, NY. Sponsored by the Yankee Group, the seminar will cover all aspects of the home computer market. For information, write the Yankee Group, Seminar Dept., 89 Broad St., Boston, MA 02110, or call 617-542-0100.

YANKEE GROUP SEMINAR: THE HOME MARKET, Oct. 15-16, Berkeley, CA Sponsored by the Yankee Group, this repeats for West Coast computerists the seminar held Oct. 8-9 in NYC. Contact The Yankee Group Seminar Dept., 89 Broad St., Boston, MA 02110, or call 617-542-0100.

EG Readers Pick Their Favorite Games

Most Popular Computer Games

Position This Month	Position Last Month	Times on List	Game	System	Manufacturer
1	3	6	Buck Rogers	Most Systems	Coleco/Sega
2	8	5	Zork 1	Most Systems	Infocom
3	9	2	Summer Games	Atari, C64	Epyx
4	7	6	Lode Runner	Most Systems	Broderbund
5	2	3	Donkey Kong	Adam	Coleco
6	—	2	Bruce Lee	Atari, C64	Datasoft
7	—	New	T.A.C.	Apple, Atari	The Avalon Hill Game Co.
8	—	New	Flight Simulator II	Most Systems	Sublogic
9	12	3	Donkey Kong Jr.	Adam	Coleco
10	—	New	Sorcerer	Most Systems	Infocom
11	—	New	Ultima II	Most Systems	Origin Systems
12	—	New	Beyond Castle Wolfenstein	Most Systems	Muse
13	6	3	Q*Bert	Most Systems	Parker Brothers
14	—	New	Break Dance	C64	Epyx
15	—	New	Enchanter	Most Systems	Infocom

Most Popular Videogame Cartridges

Position This Month	Position Last Month	Times on List	Game Title	System	Manufacturer
1	1	6	Pitfall II	Atari 2600	Activision
2	5	8	Miner 2049er	Atari 5200	Microfun
3	—	9	Advanced Dungeons & Dragons	Intellivision	Mattel
4	7	6	Mr. Do	Colecovision	Coleco
5	3	3	Super Action Baseball	Colecovision	Coleco
6	—	4	Pole Position	Atari 5200	Atari
7	8	5	Space Shuttle	Atari 2600	Activision
8	4	8	Joust	Atari 5200	Atari
9	—	9	Ms. Pac Man	Atari 2600	Atari
10	14	3	Star Wars	Atari 5200	Parker Brothers

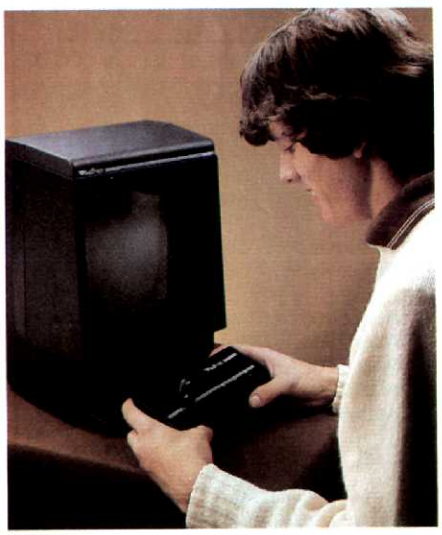
Most Popular Coin-Op Videogames

Position This Month	Position Last Month	Times On List	Game	Manufacturer
1	2	8	Dragon's Lair	Starcom
2	1	10	Star Wars	Atari
3	8	8	Spy Hunter	Bally/Midway
4	3	12	M.A.C.H. 3	Mylstar
5	5	3	Space Ace	Starcom
6	10	3	Punchout	Nintendo
7	6	9	Track & Field	Konami
8	4	5	Pole Position II	Atari
9	7	5	Crossbow	Exidy
10	—	2	Firefox	Atari

VECTREX — A DEAD ISSUE?

I own the now-defunct Vectrex videogame system. I've enjoyed your articles on it, and was wondering if you could publish more reviews on Vectrex products.

And to the person in your November issue who owns a "dead" 5200



and felt left out in the cold, don't feel bad. Think of all the people who own Intellivisions, Odysseys, Astrocades, and others.

I love my Vectrex and own many games for it. I don't care if it's "dead" — what makes me feel bad is that nobody is writing exciting reviews about it like they used to. Could you?

Eric Bolog
Orlando, FL

Ed: Eric, you summed the situation up in your second paragraph: Vectrex has stopped production, just like the makers of Intellvisions, Odysseys, Astrocades, etc. It really doesn't make sense for us to re-review games that have already been written up in these pages, no matter how good they might be. And since there will be no more Vectrex games coming through the software pipeline, there just isn't anything new to review.

CORRECTING COHEN

I just received my issue of EG and read the review of the Atari 800XL, and feel that Henry Cohen didn't do his homework. First, the article stated that the Reset button does a cold start. *Wrong.* It leaves the program intact, and only resets Poke values to default. Also, the translator disk *does* boot cartridge and cassettes. In order to boot a cassette, after booting the translator, just hold start and press Select. For cartridges, try holding down Reset and insert the cartridge, then release Reset.

Third, the article said that to disable BASIC, you must hold the option key during the whole boot. All you have to do is hold it during power-up.

I've had my 800XL for a year now.

James J. Banas
Lancaster, NY

ED: We would have liked to print more of your letter, James, but unfortunately, we couldn't read your handwriting! Thanks for writing, though, and we stand corrected.

CREDIT WHERE DUE

In the November 1984 issue of your magazine, an article ("The Great Game Designer Talent Hunt") lists Don Bluth as the designer of **Dragon's Lair** and **Space Ace.** Mr. Bluth is also listed as the designer of these laser games in a column in that same issue.

Mr. Bluth is a very talented animator. However, both of these games are the result of the work of three companies, under the name of Starcom (now Magicom). The games were manufactured by Cinematronics. Don Bluth Productions was responsible for the animation and filming. A company called AMS, now RDI, did the actual design work and programming of the game. I know this information is true because I worked at AMS as one of the designers for *Space Ace,* and I did some of the post-production work on *Dragon's Lair.*

With the amount of false glory claiming that goes on in this industry, I'm surprised you don't research your facts better. If you don't want to call Cinematronics for verification, you could at least try to find other articles which did list all three companies responsible for these games.

What ever happened to journalistic standards? If this is a sample of your accuracy, then your magazine is not a source, it is a gossip mill.

Shannon Donnelly
El Segundo, CA

Ed: Electronic Games Magazine did indeed credit AMS and explain the team effort used in designing **Dragon's Lair** *in an in-depth article that appeared in the November, 1983 issue, when we stated that "When Rick Dyer, of Advanced Microcomputer Systems, invented the technology used in* Dragon's Lair's *laserdisc operation, he initially approached Bluth's studio with the idea of animat-*

ing a medieval-themed adventure game. . .(Bluth). . .called in designers from Advanced Microcomputer Systems."

MAIL ORDER MADNESS?

I'd like to register a complaint against "Games Clearinghouse, Inc." which advertised in your May issue. My son sent money to the company for their so-called "Dealer Kit" in April. When he received no reply by the end of May, I called the phone number listed in the advertisement. I then wrote, requesting that our money be refunded at the end of May. Still no reply.

Is there any way we might attempt to get a refund? We would appreciate your help.

Darlene Quiram
Richmond. VA

Ed: Games Clearinghouse stopped operations in March 1984, too late for us to pull the ad from the April issue. According to Mr. Earl Bunker, formerly of Games Clearinghouse, the company filed for bankruptcy. He says that his company was advised not to open any mail, and to have a court-appointed trustee process all claims. Sorry to say, it will probably be months before the courts can untangle the sea of red tape.

VEGAS COMPUCLUB

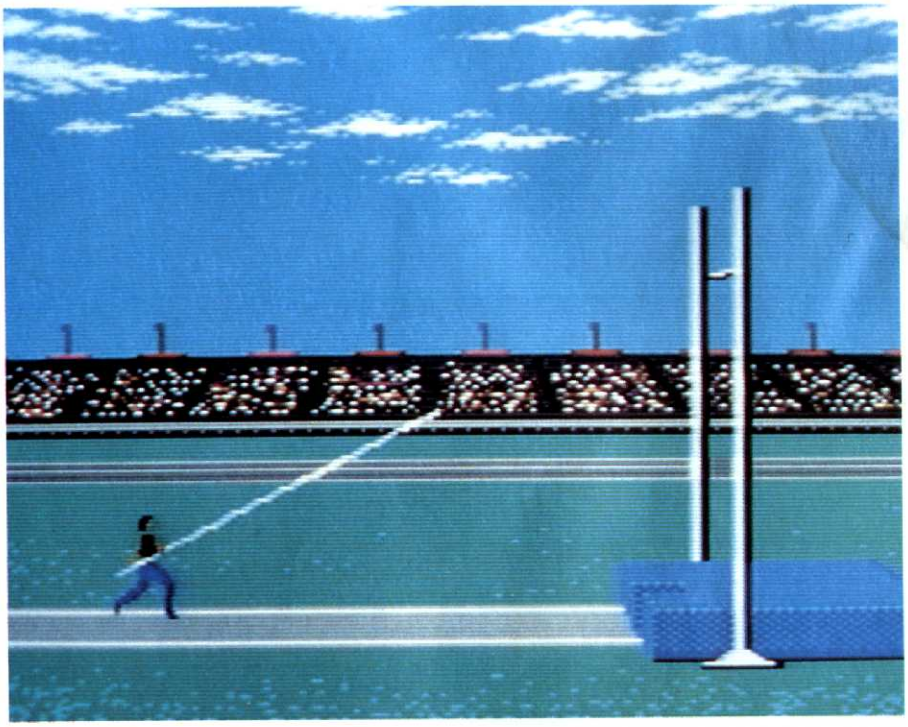
Your magazine stated that you were looking for computer clubs, and there's one out here in Las Vegas, that fits the bill. We're the Silicon Society, a Commodore-based programming team. We deal mostly in producing public domain games, but also run a bulletin board. Sometimes we run a bulletin board. Sometimes we even stage game tournaments with other computer clubs. We have various handles for ourselves (The Hitman, Black Beard, Dr. Sound, DOS Man, et.), but despite the names, no pirates allowed. We've been established for a year and are avid readers of EG. We're always looking for talented new members!

The Silicon Society
David Feldman, George Cartwright, advisors
2815 N. Jones Blvd.
Las Vegas, Nevada 89108

Ed: We'll bet you find at least a few "talented new members" after this sees print! Good luck, and keep us posted.

QUIRK OF THE MONTH

I found a glitch in Epyx' **Summer Games.** Although on the pole vault screen, it's almost impossible to jump the 6.20 height, why not go under it? Follow the vault procedure as you usually would, but put in a low pole



grip. If you time it right and release the pole at the right time, you should go right under the bar and it will count as a successful vault.

Chris Fry
Honolulu, HI

Ed: Start checking your mailbox for your Paxxon Pac-Man wall clock.

IN SEARCH OF PC GAMES

I own an IBM Personal Computer and am interested in games for it. I read your reviews on the computer games, but can't find any reviews of games for the IBM PC. Please try to review games without leaving out those for the PC. Other than that, I'm satisifed with the magazine.

Douglas Chia
Bedford, NY

Ed: Get ready to look though your back issues, Douglas! **King's Quest** *from Sierra was recently reviewed in these pages, as are just about all Infocom adventures (which are available for just about every computer under the sun). In addition, we expect to review more games just for the IBM PC and PCjr in the next few months.*

DEMYSTIFYING "MURDER"

I'm writing to give a helpful hint on Electronic Arts' **Murder on the Zinderneuf**. If you finish the game and want to play the same game over again, you can do it by taking the diskette out of the disk drive and then hitting START. The drive will whirl for about four seconds and then stop. The game starts over with the same detective, victim, and killer. This can be repeated again and again.

I also found a glitch. I was playing with Humboldt Hause and Veronica Marlowe was the victim. I ended the game and found out that the killer was Stephie Hart-Winston. Her memoirs read, "I'm glad Jeremiah's dead. I made a mistake once and I've been paying for it ever since."

Jeremiah was not the victim. In fact, I had asked him many questions in that game. I started the game over many times and always got the same confession.

Lamont Allen
New York, NY

Ed: What you seem to have found is a bona fide bug, Lamont! We tried to recreate it but couldn't, which disqualifies your glitch from the Quirk of the Month contest, but thanks for sharing it — and your helpful tip — with our readers. EG

INSTANT PICASSO

Put A Palette In Your Computer

By BRIAN SCOTT

One of mankind's greatest aesthetic pleasures is expressing thoughts and emotions through art. Many believe that pictures are the most expressive of art forms; hence the saying, "A picture is worth a thousand words." When an artist applies paint to a canvas, his or her feelings direct the brush.

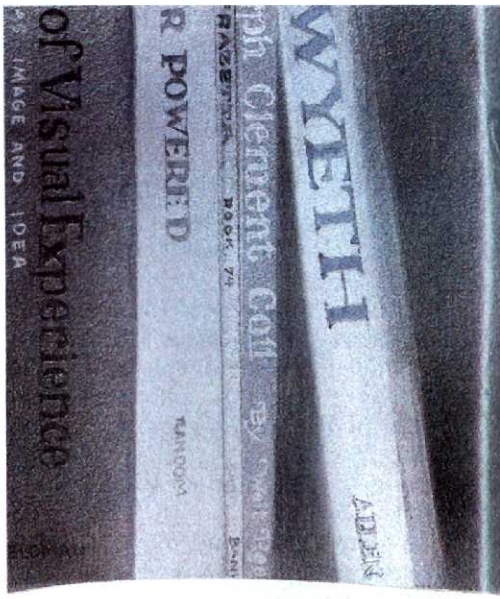
Some budding Picassos are stopped in their tracks by the barriers imposed by the craft. There's a lot more to painting than daubing colors onto canvas, and it's the niceties, such as blending hues, which separate dabblers from Old Masters.

The introduction of computer art programs makes it possible for people to create works of art worthy of the Louvre with nothing more than a simple joystick. Computer owners have graduated from stick figures, blocky graphics and "fingerpainting" to multi-toned images, higher resolution, and even animation within a short period of time. Tedious programming chores have been reduced to something like children's building blocks, with a little help from peripherals and software that let any computer owner create art without the mess.

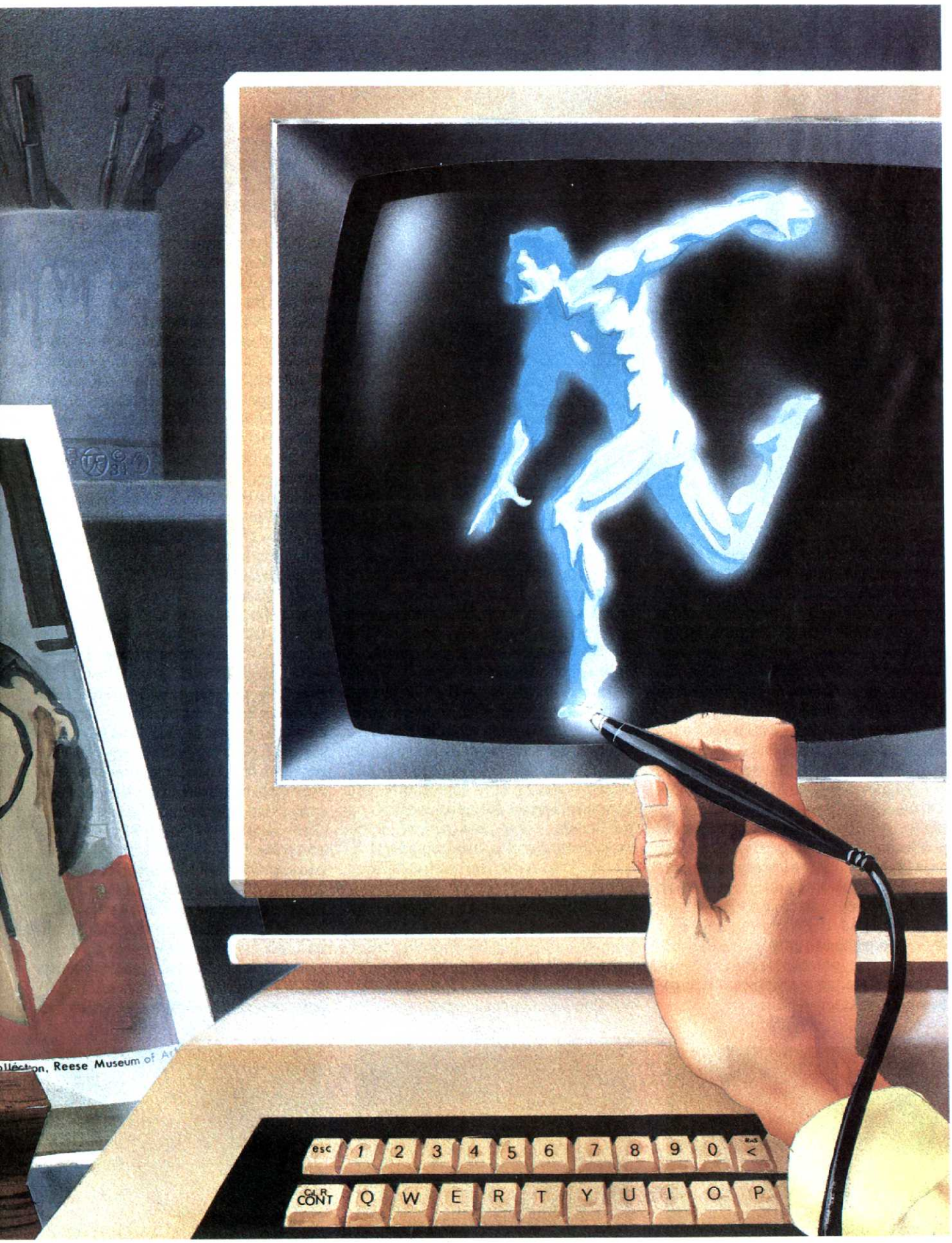
THE NEW-TECH PAINTBRUSHES

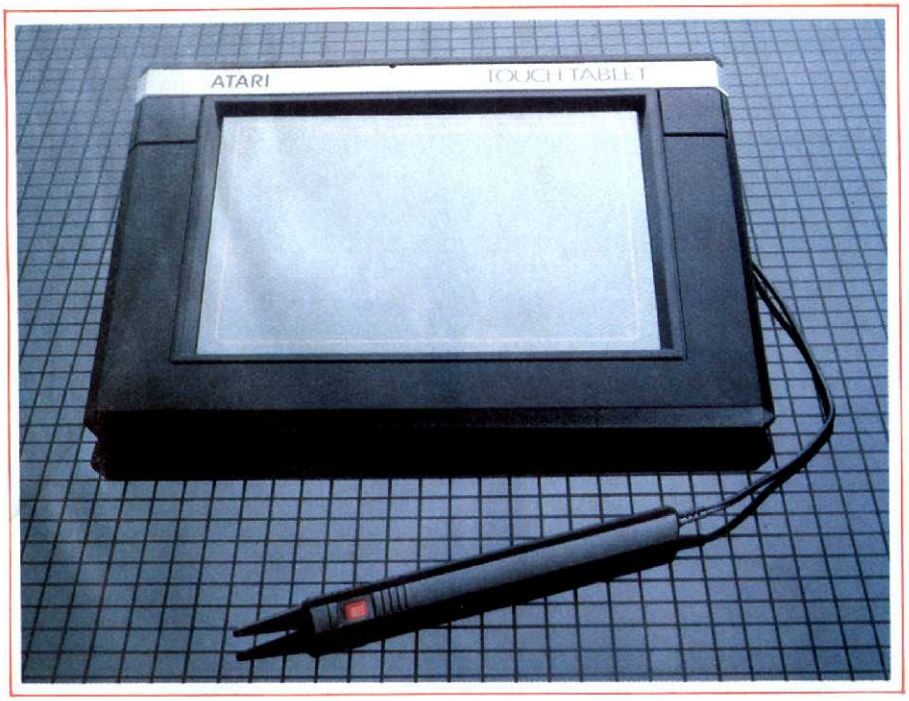
Many of these programs require more than a keyboard, though little or no knowledge of programming is needed. Joysticks, touch or graphics tablets, light pens and mice (no, not the organic type!) are all being used in creative new ways. When this hardware was first introduced, only large companies, universities, or the very rich could afford them. Now these devices can be purchased at reasonable prices.

Let's begin with a quick look inside a joystick. At the center of a typical stick is a small plastic plate with metal pressure switches on it. When the plastic shaft insert trips one of the switches, the computer recognizes the signal and directs the on-screen graphic in the desired direction. In an art program, the joystick moves a cursor around the screen. The action button



SSO – The Discus Thrower 1931


esc
1 2 3 4 5 6 7 8 9 0
CLR
CONT
Q W E R T Y U I O P



Atari's touch tablet.

tells the computer to leave behind a color pixel in most joystick-driven art software. But joysticks are limited to movement in eight directions. That means artists can't do any high-resolution drawing, unless they want to sketch pixel by pixel. Even so, this type of program can produce some pretty nice artwork.

A graphics tablet is a step up from a joystick, but it works like a paddle. A paddle has a resistor with registers ranging from zero to 255. Each locates an on-screen graphic somewhere on an x- or y-axis. The graphics tablet works similarly, except that there are two layered sheets of resistors for vertical and horizontal direction. When the computerist places a finger or stylus on the pad, the computer identifies the x-y coordinate and moves the cursor to those points. Hi-res drawings are a snap, since a graphics tablet resembles a sketch pad.

Speed and versatility make light pens the top of the line. They react to the electrons sprayed on a monitor screen to create the picture. This process must be repeated frequently, because the electron's energy discharges quickly. A light pen contains a photo (light-sensitive) transistor. When activated by incoming electrons, the computer detects the beam, checks on how rapidly the screen is being redrawn (usually each 1/60 of a second), and matches the speed. This is how the computer knows the pen's location on the screen. Light pens can select directly from a menu, bypassing the traditional keyboard. Their only handicap is that users have to draw against gravity, because they must hold the pen up to the screen to use it. That's an invitation to hand-fatigue. Actually, some pens aren't totally free of the keyboard; they need input from it to start drawing (usually by depressing a key). Others have built-in switches which tell the computer to take control and tell it where the pen is pointed.

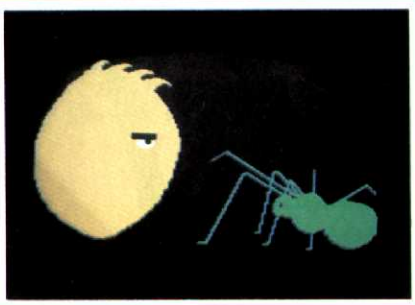
GRAPHICS TABLETS

Art utilities are common these days, and they're available at prices that won't burn out your wallet.

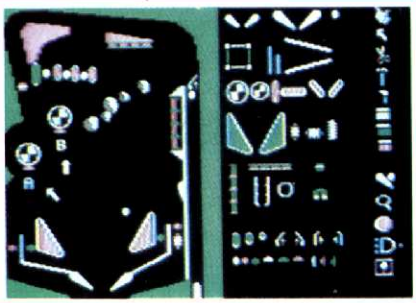
Art packages, even from the same publisher, differ in graphics resolution and color palette, depending on the capabilities of the computer system for which the disk is designed. For instance, **Micropainter** (Datasoft) offers a broad spectrum of hues on the IBM PC, but only a comparative handful on the Atari. Accordingly, we can expect art programs to simulate the real thing more and more accurately as computer technology advances further.

Koala was the first company to produce a low-cost ($70-$90) graphics tablet with various features such as magnification, instant boxes, frames, circles and discs. Set-up is fast; plug it in, load a program (such as **Microlllustrator,** which comes with the Koala unit), and it's ready. Drawing with a finger or the enclosed stylus is so easy that even children as young as seven years can show off their talents. Also from Koala are other pad-oriented programs like **Spider Eater** (used to teach musical note recognition), **Coloring Series One and Two** (graphic coloring books with different patterns to fill), a Logo program, and more. Many third-party titles also support the Koala pad, including: **Music Construction Set** and **Pinball Construction Set** (Electronic Arts), **MovieMaker** (Reston), and **David's Midnight Magic** and **The Print Shop** (Broderbund). Available for all popular home computer systems, the Koala pad is a joy to use.

Atari's pad, though comparable to the Koala pad, has some advantages in basic design and associated software.



SPIDER EATER (KOALA)



PINBALL CONSTRUCTION SET (ELECTRONIC ARTS)

THE PRINT SHOP (BRODERBUND)

For instance, it's screen-shaped, which gives the user a better idea of dimensions to make sizing easier. A mirroring option gives users a choice of left, right, up, down or diagonal mirroring. Its stylus has a button to start and stop drawing, though it is a little awkwardly positioned. Fortunately, there's a choice of using the buttons on the pad.

Suncom produces The Animation Station, a pad which seems to be the cream of the crop because its surface is designed as a grid to facilitate drawing. It comes with two large styli and programs which include animation and offer many colors and textures. The pad is made for just about every computer system, and is also screen-shaped.

LIGHT PENS

A few years ago, Atari promised consumers that it would be developing a light pen for home use. Now the company has finally produced a low-cost pen with a wide variety of features. The pen itself is well-constructed with a trip-switch built onto the end of it so the user isn't confined to the keyboard. All you need is on the screen. When computer artists load the **AtariGraphics** program, four tabs appear on the left side of the screen. These are the option cards, which represent graphic works (what you're going to do on the screen), storage controls (to save the creation), a patterns palette (it does what it says), and the color mixing control card (select the color and brightness. *AtariGraphics* works as many other art programs do, but the use of a light pen makes it novel.

Koala's light pen, the Gibson Light Pen System, was named for its designer, Steven Gibson (who also created the Atari pen). For use on the Apple and IBM-PC, the pen and its programs **PenPainter, PenAnimator,**

ANIMATION STATION (SUNCOM)

PenMusician, PenDesigner and **PenTrak Language System** leave little to be desired; they have it all. *PenPainter* is the basic drawing program. *PenAnimator* gives users the opportunity to make their own cartoons. The program gives artists a 5 by 4, 20-cell box grid on which to create their own animation cells. Then the computer shows the cells back to back as a finished "film." *PenMusician* works in much the same way as *Music Construction Set.* A staff is shown and it's up to computer musicians to place notes on it. *PenDesigner* is a more advanced drawing tool which gives artists more creative control over their pictures: move, stretch, reverse, and more choices are there for the taking. *PenTrak* offers advanced programmers the opportunity to incorporate the pen into their own programs.

Futurehouse and the Edumate light pen offer a budget package to those who can't afford the higher-priced pens. Retailing for around $40, the package is controlled by the keyboard, using one key to activate it. There is software enclosed, but another art program from the same company, **Peripheral Vision,** has a broader range of applications, including screen dumps. Though the Edumate Light Pen depends on the keyboard, its ease of operation is very good, and it's a fine piece of hardware for the money.

Tech-Sketch's light pen is also available for most systems, and was reviewed extensively in EG's September '84 issue.

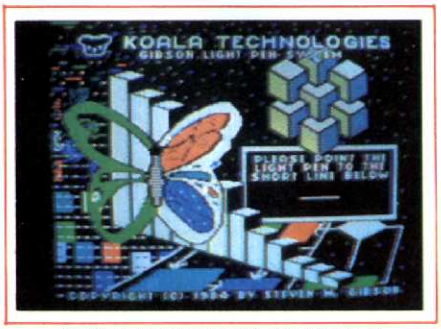
JOYSTICK ART

Before 1983, the most common data-transferring peripheral was a joystick. People usually associate it with gaming, but some companies developed software that proved the joystick was good for more than just up, down, left, right and fire.

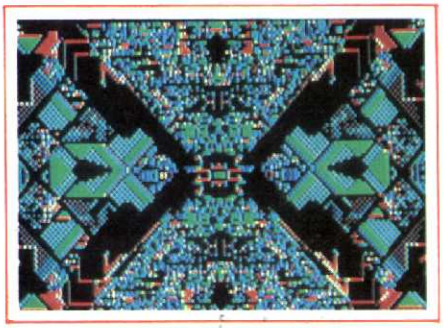
Some of the earliest joystick-operated drawing programs were for home videogame systems, like **Video Graffiti** by Atari and **Scribble** from Bally Arcade. These programs were the founding fathers of art software, but are very primitive and blocky by today's standards.

Video Easel by Atari appeared soon after its first line of computers, circa 1979. It wasn't really a drawing program, but rather a pattern-making device. Once users drew a few lines on the screen, the computer expanded on them infinitely. This program was Atari's mainstay in the art area until it introduced **Paint**, which runs on all Atari computers. It's a good program, offering different pen thicknesses, colors, textures and "instant" geometric shapes.

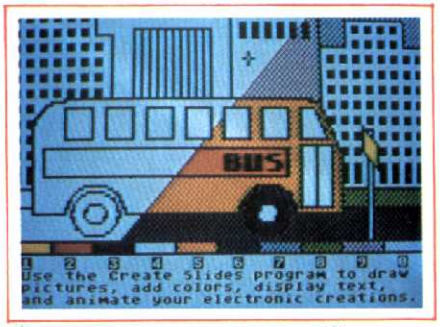
Datasoft's **Micropainter** can make very high resolution pictures and is joystick-controlled. An example of its capabilities is the Einstein demo, which



GIBSON LIGHT PEN SYSTEM (KOALA)



VIDEO EASEL (ATARI)


BUS
1 2 3 4 5 6 7 8 9 0
Use the Create Slides program to draw pictures, add colors, display text, and animate your electronic creations.

THE VISUALIZER (MAXIMUS)

also graces the cover of the package. The picture was created by using small blocks of different colors which combine to create a collage resembling Albert himself. The options are limited only to fill, color and zoom. Three cursors let the computerist draw lines, erase, or even do freehand painting.

Fun With Art by Epyx overcomes the color limitations of Atari computers. It allows the Atari's 128 colors to be used on screen simultaneously, making excellent polychromatic artwork a reality. With full image control, computerists can move, duplicate, or erase blocks of their pictures with no hassle. Its only problem is in the way it fills. Users must select which direction they want fill colors to "pour", and more than one fill might be needed to complete the process.

The Visualizer (Maximus) is the only program of its kind on the market. True, it is a drawing aid, but it also lets the user create "slides" and load them into a "slide projector." Interesting presentations are made with up to 26 slides on a blank diskette. The timer, sorting and speed are controlled by the computer artist. The program is very easy to use. Average users can read the instructions, and be creating their own slides within an hour. The program allows slides to be printed, and the **Visualizer Jigsaw Game,** which turns any slide into a jumbled puzzle, help make this an excellent graphics tool.

MovieMaker (Reston) is by far the most difficult, yet amazing, program in its category. The average computer owner can use it to make "cartoons", varying in length from a few seconds to a couple of minutes (depending on frame speed selected). By creating a shape table, animation is created just like in Hollywood — by drawing "cells" frame by frame, then presenting them at a speed simulating real-life motion. Computer animators have total control of the projector and camera, sound, and background, with the press of a few buttons. With **MovieMaker** you can direct a movie that would put Spielberg to shame!

EDUMATE LIGHT PEN (FUTUREHOUSE)

Datamost's **Paint Magic** uses the joystick to control 15 colors. Special features help the computerist draw perfect geometricals, or fill in with solid colors, stripes, or even tweeds and checks. Transpose scenes from one painting to another, or even merge two canvasses. A magnification mode lets artists create pixel-by-pixel detail. The program has 11 paintings already on disk, for the would-be artist to play with.

The Incredible Pencil, by Gary Kitchen (Activision, for the C-64 and Atari), is a joystick-controlled, menu-driven program with great sound and built-in graphics capabilities. Assemble pictures, then fill in areas of color. It also contains a random music generator, and a quadra-drawing mode so that anything drawn in one sector appears in the other three quarters of the screen.

Computer Crayons, by Playground Software, is an on-screen coloring book for early learners. Use the joystick or a light pen to color each letter of the alphabet. It's for the Commodore 64 and Atari computers.

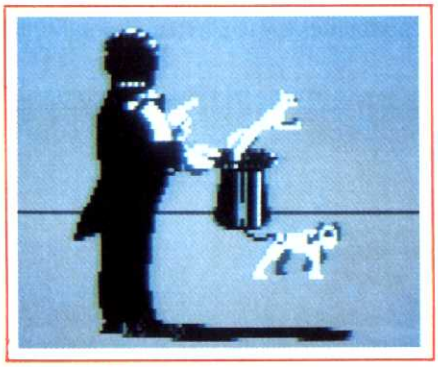
Smurf Paint 'N Play Workshop, by Coleco for ColecoVision and Adam computers, is for youngsters ages 4-10. Kids move up to four Smurf characters around the screen, in action sequences that can be recorded and played back. Pre-drawn props, such as flowers, trees and furniture, can be placed in any scene, or computerists can use a 15-color palette to paint their own pictures.

Picture Writer, from Scarborough Systems, uses a joystick or Koala pad to draw lines, fill areas, and set the finished picture to music. Built-in tutorials make it easy to get started, and there's a library of pictures on disk to use as a coloring book.

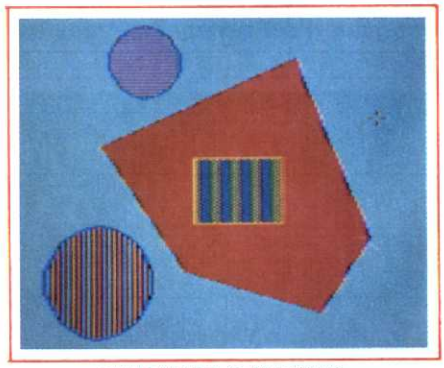
Weekly Reader Family Software's **Pic. Builder** is an unusual sort of art program. Computerists build pictures block by block, just like a construction set. Invent your own, using the colorform palettes, or use the 40 paintings included with the program like a paint-by-number set. It's an open-ended artistic experience that keeps growing with the user.

There are many more such programs available and on the way, so if you're not impressed or satisfied with those listed here, shop around for one that fits your needs.

Happy drawing!


MOVIEMAKER (RESTON)

Atari's light pen.


PAINT MAGIC (DATAMOST)

SO YOU THINK YOU GOT THE BEST OF FROGGER AND ZAXXON? SORRY.

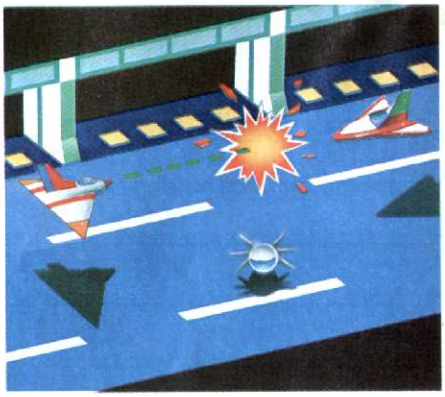
See, while you've been mastering them, we've been advancing them. Making them even more fun than before. So now we have two new mindblasters.

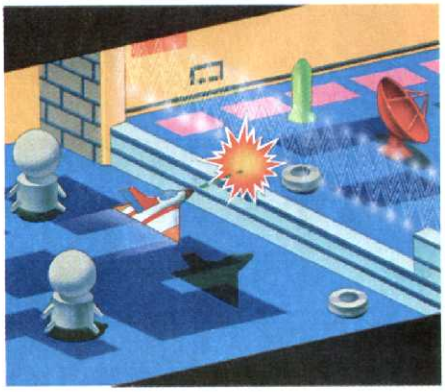
Frogger II Threee-Deep, a three-screen nightmare. Starting with an undersea battle against deadly creatures and the cruel undercurrent. If you do make it to the surface, it just gets worse. The only hope is to leap into the sky where even more frog-eating monsters lurk.

And Super Zaxxon, taking you beyond the outer limits in your space fighter. Tunneling through enemy attack, firing at Zaxxon's forces, dodging mine layers.

And beyond the last electron barrier, the ultimate test. Zaxxon is now a killer dragon hurtling heat-seeking fireballs.

Hope we haven't scared you. But if Sega doesn't keep you ahead of the game, who will?





Atari 2600	Atari 5200	Atari Computers Cartridge	Atari Computers Diskette	Commodore 64 Cartridge	Commodore 64 Diskette	ColecoVision & ADAM	Apple II's	IBM PC	✓Sega Enterprises, Inc. ✓Parker Brothers ✓HesWare
✓NEW	✓NEW	✓NEW	✓NEW	✓NEW	✓NEW	✓NEW	✓NEW	✓NEW	FROGGER II
		✓NEW	✓NEW	✓NEW	✓NEW		✓NEW	✓NEW	SUPER ZAXXON

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INTRODUCING FROGGER II THREEEDEEP AND SUPER ZAXXON.

Commodore's Plus/4 with printer, disk drive and monitor.

Exclusive!

FIRST LOOK AT COMMODORE'S TWO NEW MICROS

Will Gamers Want These Systems?

By TOM BENFORD

The May '84 issue of *Electronic Games* featured a first look at Commodore's new computer, which was called the C-264 at that time. Originally known as the "TED" because of its Text Editing Device chip, it's being released as the Commodore Plus/4 home computer.

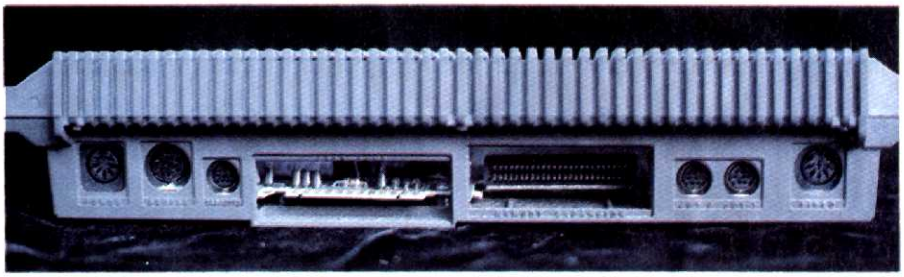
The Plus/4 comes in two varieties: one has built-in software, the other doesn't. Aside from the that, the machines are identical. Since the software in the "loaded" variety Plus/4 is contained on a chip, Commodore calls it "software-on-silicon," an apt description.

The built-in software is of the "applications" genre, consisting of word-processing, spreadsheet, database and graphing/graphics functions. Commodore calls this chip-based software package "3-Plus-1," which, as you know, equals 4. Hence, the final name of the new computer is the Plus/4.

The Plus/4 is an extremely powerful computer offering many sophisticated features for a machine in the $300 price range. An enhanced version of BASIC with over 75 commands, 60,671 bytes available for BASIC programming, built-in machine language monitor and a "HELP" key are all parts of the long and impressive list of Plus/4 features. In addition to the Plus/4, Commodore has released a new computer for the entry-level user, the market as well as families without a computer. The C-16 is, in some respects, an improved version of the VIC-20, with many new built-in features and increased memory. This model features a machine language monitor, enhanced BASIC, and dedicated cursor keys. The name derives from the total memory of the machine,

which is 16K. Only 12K of this is available for programming in BASIC, however, with the remainder handling I/O's, screen functions, etc.

There's much to be said of both new machines, and many of their features and ports are similar. Before we examine the Plus/4 and C-16 separately to find out their differences, let's look at their similarities. We'll also see how similar and different they are when compared to the VIC and C-64.



A rear view of Commodore's new Plus/4.

PARTIALLY COMPATIBLE

The two joystick ports on the plus/4 are the same as those on the C-16. These ports, however, are different from those on the VIC or C-64. The new machines use a miniature-DIN connector instead of the D-9 connector on the VIC and C-64, so your old joystick won't fit.

The cassette port is also of the mini-DIN variety instead of the card-edge connector on the VIC and 64. Commodore has a new datasette unit out, the 1531, designed for the Plus/4 and C-16. Unfortunately, it's no faster than the old CN2 Datasette for the VIC and 64!

The user ports of both new models is reported to be 100% compatible with the VIC and C-64. Physically, it looks the same, though we have yet to see the port's schematic. A source inside the company ventured that it might be necessary to use a "jumper" wire to complete the handshake on certain user-port peripherals (e.g. modems) when used with the Plus/4, but we haven't encountered any problems with this port — yet.

The C-16 *has no user port!* Since few entry-level users would have the need for such "advanced" peripherals as modems, the user port was omitted. Another reason for not including it was the production-cost factor: the C-16 will be sold for under $100, so manufacturing costs were kept to the minimum.

Both the Plus/4. (There's also a built-in RF modulator with channel 3-4 selector switch built-in, so you can use your home television for viewing.

Commodore's new C-16 with peripherals.

The same audio/visual port found on the VIC and C-64 is present on these two new models also, so you can use the same monitor and cable.

Everyone will be happy to hear that Commodore has kept the serial port the same on the new machines as it is on the VIC or C-64. That means your disk drive and printer will work directly on either of these new models. The Plus/4 even allows for standard ASCII or Commodore ASCII output from this port. Additionally, both the Plus/4 and C-16 will accomodate the faster SFS-481 disk drive (if and when it is released). But the VIC and C-64 won't be able to handle the new drive.

The cartridge port is the same for the Plus/4 and the C-16, but very different from the VIC and C-64. The memory-mapping of both the C-16 and Plus/4 is radically different from either of the established machines, so even if the cartridges could fit, they wouldn't work. Plus/4 cartridges will physically fit into the C-16, but some programs won't work due to the C-16's limited memory. The majority of educational and recreational cartridges will work in both machines, with the heavier "applications" programs being the domain of the Plus/4. The first game cartridge for the new machines, **Jack Attack,** runs on either the C-16 or the Plus/4. (There's also a cartridge version for the C-64, but none for the VIC-20.

New cartridge design for the Plus/4 and C-16.

TUTORIAL CARTRIDGES

Commodore will probably include the Plus/4 Tutorial Cartridge as standard equipment with the machine, while the C-16 Tutorial Cartridge will be an optional accessory. If the C-16 tutorial is offered as an extra-cost item, it will be at a minimal price, probably well under $10.

Sig Hartmann, President of Commodore's Software Division, wanted tutorials for the new computers, so John Mathias, the Director of Recreational Software, went to work on them. He conceived the tutorials, while educational specialist Barbara Feldman did the actual programming. The fruit of their labors is a very user-friendly excursion into the keyboard for the new owner of a C-16 or Plus/4, and it's really top-notch.

Both the C-16 and Plus/4 tutorials are essentially the same in what they cover, but each is specifically tailored to the machine it was intended for. Each cursor key is explained and demonstrated, as are the function keys. The entire tutorial takes a few minutes to view, and provides neophytes with an excellent foundation for using the new machines.

The Plus/4 and C-16 both have "HELP" keys which work in conjunction with software designed to use this feature. If the "HELP" key is pressed while the tutorial is running, the user is directed to the appropriate page in the user's manual for a more detailed description of that key or function.

Now that we have a bit of general information about the two new machines, let's look at each individually and see what they do.

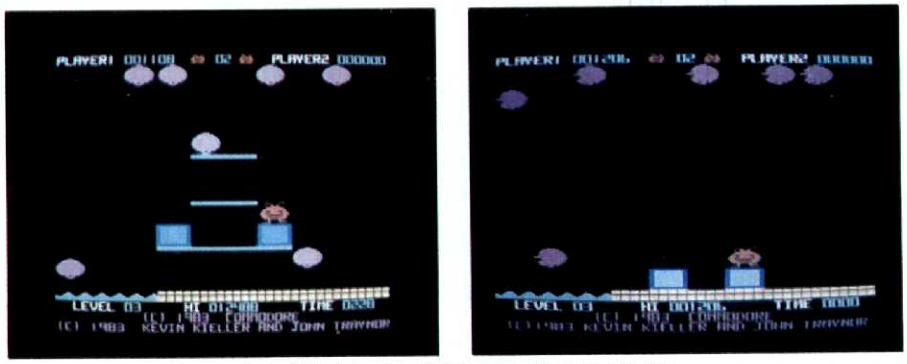
THE C-16

Just a few years ago, if you wanted to buy a computer that had a full typewriter keyboard, a lot of features and the lowest cost, you'd have bought a VIC-20. What would you buy today using the same purchase criteria? Chances are it would be the Commodore C-16, since no other computer on the market even comes close in the features vs. cost department — although its memory is limited to 64K.

Essentially, the C-16 is a Plus/4 without built-in software, no user port, and 48K less memory; the rest of the circuitry is the same as the senior machine.

The C-16 features resident Commodore BASIC Version 3.5, a new powerful dialect of this popular high-level programming language. Offering more than 75 commands, this dialect features such "allowed" words as DLOAD, DSAVE, DIR and other direct commands. Also included are CIRCLE, PLOT, SOUND and other commands that are accessible only through a Super Expander Cartridge for the VIC or C-64. Another innovative "goodie" is the inclusion of a 12-command machine language monitor, for those who want to talk with the computer in its native tongue.

Though the C-16 doesn't have sprite graphics capability, it does offer an impressive video output arrange-



Jack Attack **on the C-64 . . . and on the C-16.**

ment offering 16 colors in 8 luminance (light) levels. The result is a spectrum of 128 shades, and this rainbow coupled with the built-in graphics commands will find favor among game designers. Color, resolution and image definition are all excellent when viewed on a TV, and are outstanding if a monitor is utilized.

12,277 bytes are available for programming in BASIC, and this is sufficient for the majority of programs likely to be written in this language. (The marketing folks at Commodore feel that home programmers who need more memory will probably want a C-64 or Plus/4.) There is an expansion port on the C-16 that will accommodate a memory-expander cartridge, if and when one is developed. (Commodore states that they have no plans for developing one, but then a third-party manufacturer might; we'll have to wait and see.)

Physically, the C-16 looks and feels the same as a VIC-20 or C-64, but is molded in a two-tone grey plastic. The weight and feel is virtually identical to the former machines, and the keyboard, for the most part, is the same. The cursor control keys are now *dedicated,* however, with each controlling a specific direction in either shifted or unshifted position. The function keys are in the same spot as on the earlier machines, but a "HELP" key replaces the "F8" key.

The audio provisions of the C-16 are sufficient for most applications, with a three-voice capability as well as "noise" voice. The sound quality is somewhat improved over the VIC-20, which used the same kind of audio circuitry in a less advanced form. Serious sound applications will remain the specialty of the C-64 with its powerful SID chip.

As noted previously, there is no user port on the C-16, but that's no big deal for first-time computer users. Since both the C-64 and Plus/4 have user ports, they're the obvious choices for more advanced computors.

It will be interesting to see what an impact the C-16 has on the low-end market. One thing is certain: no other computer on the market in the $100 price range has so many outstanding features built in.

THE PLUS/4

The Plus/4 comes either as a basic computer that depends on software or user-programming to do anything useful, or as an "applications" computer with built-in software. Let's take a closer look at the built-in software before we look at the machine itself.

The sleek C-16: more built-in functions than any other computer in its price range.

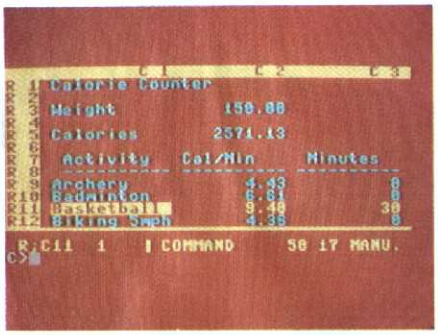
3-PLUS-1 SOFTWARE

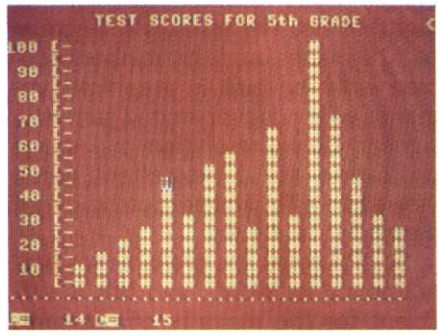
"3-Plus-1" is what Commodore calls the chip-based applications programs built into the Plus/4. It should be noted that none of the built-in applications programs are "heavy-duty," but they prove adequate for most "general" computer users.

The built-in word processor is a basic text-manipulation program with some nice, if limited, features that include linking files, variable margins, outputting to a line printer and file storage. The program can only store 99 lines of text at a time, so this probably isn't going to do heavy-duty writers much good. There doesn't seem to be any provision for double-spacing a manuscript either, further limiting any professional applications. It is, however, serviceable for the home user, and performs well with minimum user-skills. You "pro pens" out there might want to check out the **SuperScript** word-processor cartridge for the Plus/4, which combines the best features of **EasyScript** in a more palatable format.

The spreadsheet software is comprised of 50 rows x 17 columns, for a maximum capacity of 850 cells. Once again, this probably won't suit the

The Plus/4: unlike the C-64, the function keys are above the keyboard, the cursor keys are in a "compass configuration".





The Plus/4's file manager, database graphics and spreadsheet. In addition to built-in functions, cartridge-based programs are available.

needs of a professional accountant, but it should be sufficient for most of the home and light business use it will get. **Calc/Plus** is a cartridge-based spreadsheet for the Plus/4 which has the expanded features a professional-level spreadsheet should have. The spreadsheet is interactive with the word processing, so you can transfer data from the spreadsheet into a document without retyping it.

Built-in database capability is a nice feature of the integrated software. This allows users to create and maintain files for Christmas card lists, recipes, etc., and is interactive with the other built-in software. By using the interactive feature of the database, you can combine it with the word-processor to create "form" letters and the like. Commodore also offers more "specialized" databases, such as **The Manager/Plus** if you require more powerful features, and it's available on cartridge for the Plus/4.

The graphics function of the Plus/4 built-in software is really a nice touch. It allows the user to translate data from the spreadsheet into bar-graph form for inclusion in a print-out. A novel feature is that the bar-graph isn't composed of bars at all, but printable characters (such as x's). The reason for choosing printable alphabetic characters is that the graph function will work on daisy-wheel printers as well as dot-matrix printers.

THE PLUS/4 HARDWARE

A handsomely-styled machine in a dark charcoal cabinet with smart white keys, the Plus/4 looks *good*. Accenting the contemporary angular styling are the light grey function and cursor keys. The function keys are now located above the "numbers" row of the keyboard, and they are thin and rectangular in form. The cursor control keys are located at the lower right of the keyboard, arrow-shaped in a "compass-point" configuration. These keys control the cursor in the directions they point in. Double-bravo to the design team who finally provided us with dedicated-direction cursor keys.

The overall shape of the Plus/4 is radically different from any other machine Commodore has produced to date. Everything is compact and well laid-out, while still packing a lot of power. The size of the Plus/4 is roughly the length of a C-64 if you were to cut off the function keypad; the width (front to back) is about the same as a C-64, but the Plus/4 weighs a few ounces less.

The keyboard has a more angular slope to it, and it has an exceptionally good feel, reminiscent of the portable SX-64. Its touch is light and fast, making it ideal for word-processing applications.

The provision of a reset button on the side of the Plus/4 eliminates turning the machine off and on again to restart a program or clear the memory, a good feature to have for "warm" boots.

A built-in RF modulator with hi-lo channel switch handles outputting to the television set; if you prefer a composite color monitor, the A/V port on the back takes care of this. With its 128 color spectrum (16 colors, 8 luminance levels), it looks as good on the screen as it does by itself.

'The Plus/4 is an impressive machine intended for applications use.'

Since there's no SID chip in the Plus/4, the C-64 remains the king of the hill in the Commodore family when it comes to sound. The C-64 also remains the only Commodore machine with sprite capability, since this feature is not included in the Plus/4. The possibilities for animation on the Plus/4 are incredibly good even without sprites, as evidenced by both the tutorial and *Jack Attack* cartridge we've used.

The built in BASIC dialect (version 3.5) adds many new commands for the home programmer, including GRAPH, PLOT, SOUND and disk commands as well. A 12-function, built-in machine language monitor allows for easier M-L programming. Selectable output to a line printer of standard or Commodore-modified ASCII allows for a broader selection of printers that can be used with the machine.

The Plus/4 will never replace the C-64 in the market place, nor is it intended to. The C-64 will still be the computer of choice for those users who demand extensive sound and sprite capability, as well as a good "all-purpose" computer with 39K available for programming in BASIC.

The Plus/4's appeal is to those users who need the convenience of built-in software for (limited) word processing, spreadsheeting, database capability or graphic functions. It seems to be an ideal choice for the student or for light business applications, and features 60K for the hacker market.

It's an impressive machine that was intended for applications use, and it succeeds admirably in achieving this end.

LOOK WHAT'S ON TELEVISION TONIGHT.

6:00

THE HULK

The first comic attraction in the QUESTPROBE™ Adventure Series. You become a super hero. A joint (ad)venture of Scott Adams, Inc. and Marvel Comics Group. (Diskette)

6:30

MATH FACTS

(Ages 5 to 10) (Micro School) Educational TV. Practice in basic math facts. Several levels. (Easy to hard) (Diskette)

7:00

FRENZY/ FLIP FLOP

(Ages 6 to 14) (Milliken Edufun) FRENZY (subtraction and division) The hungry gator arrives... save the fish... play the BONUS game... FLIP FLOP (transformed geometry) look at the two figures... do they need to flip, turn or slide? (Diskette)

7:30

SOLAR FOX

It's erase or be erased as you navigate spaceship over a grid of colorful pulsating entities, armed with laser. Unlimited levels. A BALLY MIDWAY original. (Cartridge)

8:00

EASY SCRIPT

Our best wordprocessor. Displays 764 lines by 40 characters. Prints over 130 columns. Global/local search/replace/hunt/find. Super/subscripts. Insert/delete characters, lines, sentences, paragraphs. (Diskette)

8:30

THE MANAGER

A powerful database management system. For business, educational or personal files. Not for Rockford's files. With four built-in applications. Or design your own. (Diskette)

9:00

MAGIC DESK I

The scene opens on an office desk, complete with digital clock, typewriter, wastebasket and file cabinet. Select functions (typing, filing, editing) by pointing animated finger (Cartridge)

9:30

INTER-NATIONAL SOCCER

(Gold Medallion Game) Sports highlight. With passing, kicking, diving goalies, even trophies! Great color, 3-D realism. No locker room interviews. (Cartridge)

10:00

SIMONS' BASIC

Rated PG. Expands Commodore BASIC by an additional 114 commands. Convenient programming commands such as RE-NUMBER and TRACE plus graphics plotting command. (Cartridge)

Announcing the most exciting variety show on television.

Featuring many of the stars of arcade games, education and the business world.

Produced by (and for) Commodore, the people who bring you the Commodore 64™ a 64K computer that would be a value at three times its price. In fact, many of its competitors are three times its price.

Produced in living high resolution graphics with 16 available colors and with eight 3-dimensional sprites.

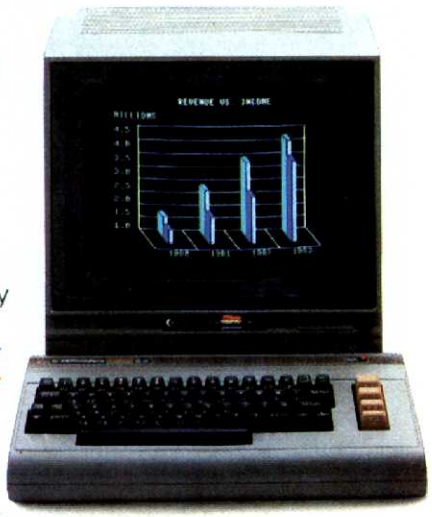
With a real high fidelity sound that covers a 9-octave range.

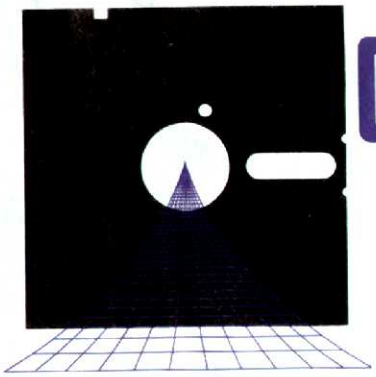
And a supporting cast of low-price, high capacity disk drives, printers, monitors (a better way to watch Commodore 64) and modems.

So, if you're not pleased with what's on your tv set tonight, simply turn on your Commodore 64.

COMMODORE 64

IT'S NOT HOW LITTLE IT COSTS, IT'S HOW MUCH YOU GET.





COMPUTER GAMING

- Action Arena 30
- Translations 34
- Think Tank 36
- Passport to Adventure 39
- Electronic Pressbox 41
- Entertainments 42
- Playing It Smart 45
- Articles of War 46

ACTION ARENA

DRAGON'S LAIR

Coleco/Adam/Digital Data Pack

When Coleco first announced that its arcade-to-home translation of the popular laserdisc coin-op **Dragon's Lair** would have raster — not laser — graphics, a lot of skeptics said it shouldn't be done. After all, the argument went, who wants to play a home game that only requires one or two movements per screen? Fortunately, the same thought occurred to Coleco's anonymous design team, which captured the laserdisc game's essence while adding fresh, new elements to this quest to save the princess.

This new *Dragon's Lair* offers nine screens (actually eight, with the falling disk screen repeated), including the skeleton room, burning ropes, phantom weapons, black knight, an interesting twist on the giddy goons sequence, and of course, the final showdown with the dragon himself.

Coleco reworked each screen with home gamers in mind. For example, on the falling disk screen, Dirk has a new danger to contend with: a hovering air elemental that tries to blow him off the disk. Such new flourishes flesh out the game into a full-fledged action adventure instead of forcing it to be a pale laserdisc imitation, giving this data pack the best of both worlds.

Screens alternate between "twitch" screens (responses to specific screen prompts) and the more interactive, conventional joystick control. Fans of the arcade game will be pleased to know that the flashing light prompts that show where Dirk must run for safety are visible on all appropriate screens.

The graphics are generally good, though uneven. There are a few disappointments here, but they're outnumbered by the eye-poppers — especially the final showdown screen, which has visuals worth almost any effort to see. The dragon is downright spectacular, going into convincing death-throes complete with twitching tail when dispatched. The theme music is superb, adding a sense of urgency and excitement to the adventure.

DRAGON'S LAIR (COLECO)

The program begins loading new screens while the player is occupied on the old one, eliminating the dead screen time that bedevils the arcade game. And if Dirk doesn't clear the screen after two tries, he's automatically transported to the next challenge.

Dragon's Lair isn't easy, even on skill level one. Each successive skill level adds new patterns and challenges, though even veteran joystick jocks will be hard-put to solve the easiest game. While it may have taken a long time to reach store shelves this data pack version of *Dragon's Lair* was definitely worth the wait!

(Tracie Forman)

IMPOSSIBLE MISSION

Designed by Dennis Caswell

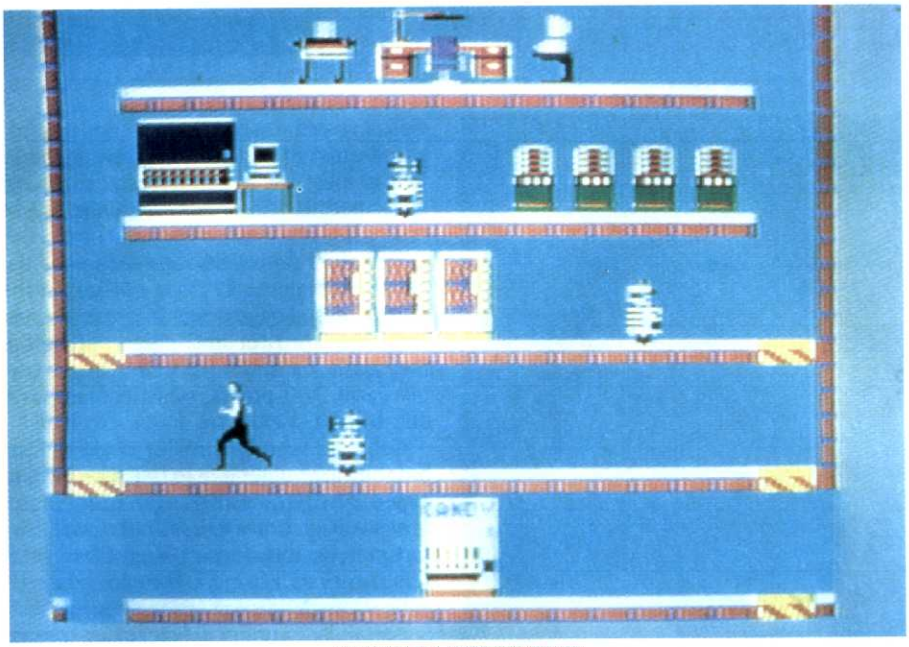
Epyx/C-64/Disk or Cassette

Dazzling special effects, like expressive speech synthesis, add spice to an already-excellent game in **Impossible Mission,** an action/strategy contest in which players must jump, climb, dodge, and program their way into the hidden lair of an evil scientist who aims to start World War III when the game time runs out.

Upon booting the disk, the player hears a voice so much like Boris Karloff's that it's, well, scary. "Ah, another visitor," chortles the off-screen Elvin Atombender, the genius scientist with a few loose chips. "Stay awhile," he mocks "Stay *forever!*" With a throaty laugh for effect, he leaves the agent to unravel the mysteries hidden in the 32 different rooms of the complex.

The graphics are as spectacular as the voice effects. The agent is realistically rendered and highly detailed, and his acrobatic grace is accented each time he jumps (a full-circle flip that would make Bruce Lee jealous). Elevator shafts, furniture, robots, and the pocket computer screen are all a feast for the eyes. The play-action is dramatic and, although the scenario is more strategy-oriented than reflex-testing, the tension level builds to a crescendo as the game goes on.

The ultimate mission is to find all the puzzle pieces Elvin has cleverly hidden in his furniture. Once found, the pieces have to be correctly matched into a series of four-piece puzzles. Each solved puzzle gives the player one letter of a nine-letter



IMPOSSIBLE MISSION (EPYX)

password that can be used to enter Elvin's private quarters and stop him from starting a nuclear war. But first you have to get past the robots.

These guard the contents of different rooms like well-trained dogs, though each robot has a somewhat different personality. Some are quick and shoot lightning-like bolts; others are merely fast. Still others are both slow and stupid, though all are fatal to the touch. Using a combination of karate-like leaps and moveable elevator platforms, the agent has to get to all the furniture and search it thoroughly. Robot-sleep passwords, also located in the furniture, can be entered into computer terminals to temporarily knock out the defense droids.

Once a number of puzzle pieces have been collected, the agent uses a pocket computer to help assemble them. Each piece matches only one puzzle, and a quick call to HQ helps orient all pieces in their proper positions. A completed puzzle is solid-colored, with a few tiny holes like a computer punchcard's.

There is no set number of lives in this game. When one agent is killed, another immediately steps in. The real challenge here is to accomplish all the tasks before time runs out. Is it an *Impossible Mission?* Maybe. But it's sure a great game!

(Tracie Forman)

MR. ROBOT AND HIS ROBOT FACTORY

Designed by Ron Rosen
Datamost/Apple II/48K Disk

As a game that tries to combine all of the best qualities of **Lode Runner** and **Miner 2049er**, two of the best games ever created for home computer gaming, **Mr. Robot** isn't half bad.

Gamers begin with five robot lives and 22 screens to test their mettle (or is that metal?). Power pills must all be collected at each level before passing on. Alien fire is the enemy, and it can destroy a robot just by touching it. Power pills are the key to destroying the alien fire. For a few moments, the power pill makes the robot invincible at which time he can destroy the alien fire.

Movement is controlled by either keyboard or joystick, although the joystick is preferable. In addition to the ever-popular ladders, there are treadmills, escalators, poles, trampolines and transporter tokens to aid movement.

After mastering all 22 of the screens included in the game, players can use the "Robot Factory" to create up to 26 original screens on a single, separate disk. The method for creating your own screens is similar to that in the **Pinball Construction Set.** The joystick and its two buttons are used to grab the objects, then drag them to the desired spot on the screen.

As a conversion to the Apple machine, the game is both a rousing success and a dismal failure. Dealing strictly with game mechanics, graphics and style of play, *Mr. Robot* earns high passing marks. But the Datamost documentation is merely a page of differences between the Apple and Atari versions of the game. A game with a list price of $34.95 should at least include instructions written especially for the Apple. It would make playing a very solid game much more enjoyable.

(Rick Teverbaugh)

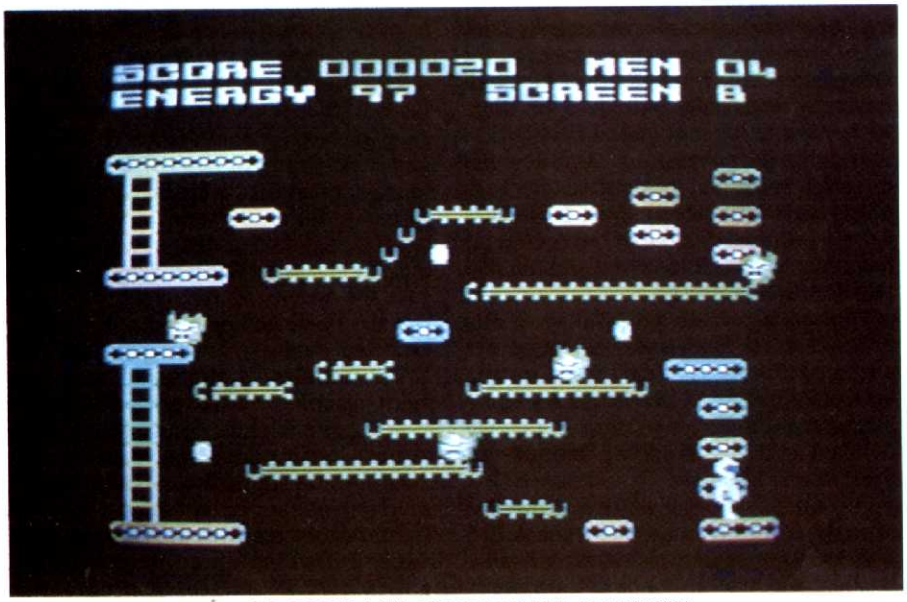
RIVER RAID

Activision/Commodore 64/Disk

This translation of Carol Shaw's smash scrolling shoot-out shows a little graphics flair here and there and adds some extra elements, but overall the game is flat and dull compared to other action offerings for the C-64. When translating, Activision has shown a preference for leaving its 2600 hits relatively intact despite the higher memories and better graphics capabilities of most computers, and the results have been mixed at best.

River Raid lets one or two players pilot a plane over hostile enemy waters, blasting all comers and touching fuel tanks to replenish gas. While the game was a triumph on the low-memory Atari 2600, Commodore owners used to getting a lot more in the way of complexity, hi-res graphics, and sound effects are likely to be disappointed in this disk.

While the game's graphics have been dressed up slightly, sharp-eyed pilots are sure to recognize the helicopter figure from the three-year-old **Chopper Command** for the 2600. The Commodore is capable of finely-detailed images, yet these look like 2600 top-of-the-line instead of average Commodore visuals. The play-action is simple — pilot the plane over enemy-infested waters and keep that fin-



MR. ROBOT & HIS ROBOT FACTORY (DATAMOST)

RIVER RAID (ACTIVISION)

ger on the fire button!

Those used to fast-paced action thrillers like **Raid on Bungeling Bay** will feel like they're playing a videogame as opposed to a computer game. The reason is that *River Raid* is a videogame on a disk.

(Tracie Forman)

CAVERN CREATURES

Datamost/Apple/Disk

Cavern Creatures appeals to the arcade lover in all of us. The object is to penetrate alien defenses and descend to the bottom-most portion of a huge crevice, in search of the fabled alien complex. On the way down, players are (of course) assaulted by many different types of creatures. As if this wasn't enough, the cavern takes some nasty turns which are quite difficult to navigate, especially with two or three alien ships all firing at you at once!

The ship is supplied by an "ion" energizer which must be replenished at check points within the cavern. If the player fails to replenish fuel, the bar at the bottom of the screen shrinks to nothing, and the ship self-destructs.

The graphics are colorful, and the enemy's attack force is well-designed and animated. The walls of the cavern are also intricately designed and scroll by quite nicely, and the colorful lasers and highly detailed explosions add to the game's great visual display.

Play can be controlled by either joystick or keyboard. When destroyed, the A,Z, ◊ and ◊ keys are used to position the new ship for take off. The motion of the player's ship takes a bit of getting used to, as the speed of a turn is proportional to the length of time the joystick or key is pressed in that direction. This skill, required for navigation, combined with the relentless assault of the enemy, makes the game more than a challenge for even the most talented arcader. The instructions speak of an underground city waiting for a very skillful assailant. This unfortunately counted me out, but even without getting to the city, I've seen enough to know that *Cavern Creatures* is a delightful blend of great plot and super graphics, and should not be passed up.

(Frank Tetro Jr.)

SOLAR FOX

Commodore 64/Cartridge

Sometimes the only way to fairly judge a team is to see how the rest of the squad plays when the star attraction is out of the game. When people think of **Solar Fox,** the sound is generally the first thing that comes to mind. This translation of the coin-op has good audio, but nothing compared to the play-for-pay machine. Yet gamers who gave the arcade machine a skip are apt to find this home edition of *Solar Fox* an unexpected treat.

The reason is the unusual play-mechanic, one which may well be unique to this game. The player uses the joystick to guide a ship around a playfield grid. The ship must destroy all the pulsating Fuzors, which are arranged in various patterns. These Fuzors must be run over twice at higher levels.

After the first few racks, stationary energy fields appear as part of the pattern. Colliding with one of these causes the ship to spin out of control for a few seconds. These must be eliminated by firing the nose-mounted laser gun with the action button.

Thrustors patrol the four edges of the playfield, periodically firing vortices at the ship. These always travel in a straight line from the Thrustor and peter out before they cross the entire field. Shooting a vortex earns 300 points, while running into one costs a ship.

Colliding with a Thrustor is also lethal, but they are vulnerable to laser fire. Hitting a red Thrustor earns 100 points and temporarily immobilizes all four. Unfortunately, this doesn't keep them from firing vortices. Hitting a Thrustor when it's yellow knocks it totally out of commission. Successfully zapping a Freezor as it races across the screen turns all Thrustors yellow and inactive for six seconds.

Solar Fox is a one- or two-player game, and there's a choice between starting with three or seven ships. Depending on the difficulty setting, the game runs either slow enough to thoroughly map out movement strategy or so fast that *Solar Fox* becomes quite a steering challenge. Hitting the Commodore logo key toggles between speeds during the course of the game.

The "skip a rack" timer, located above the upper right corner of the playfield, rewards players who cover the pattern before those precious seconds dribble away. Gamers who beat the clock can skip the rack (getting full scoring credit for it), win a 500-point bonus and get a further bonus based on the amount of time remaining.

Solar Fox is a varied and challenging abstract action-strategy game with a science fiction motif. The graphics have a simple elegance that's easy on the eyes, and the play-action is refreshingly different from the usual run of action games.

(Arnie Katz)

THUNDERBOMBS

Penguin Software/Apple/Disk

Thunderbombs launches the gamer into enemy territory, manning a cloudship capable of vertical movement and horizontal firing. The enemy bombs move up and down at the edges of the screen, firing at the cloudship while slowly creeping closer as they move. The player's mission is to destroy the Thunderbombs while dodging enemy fire.

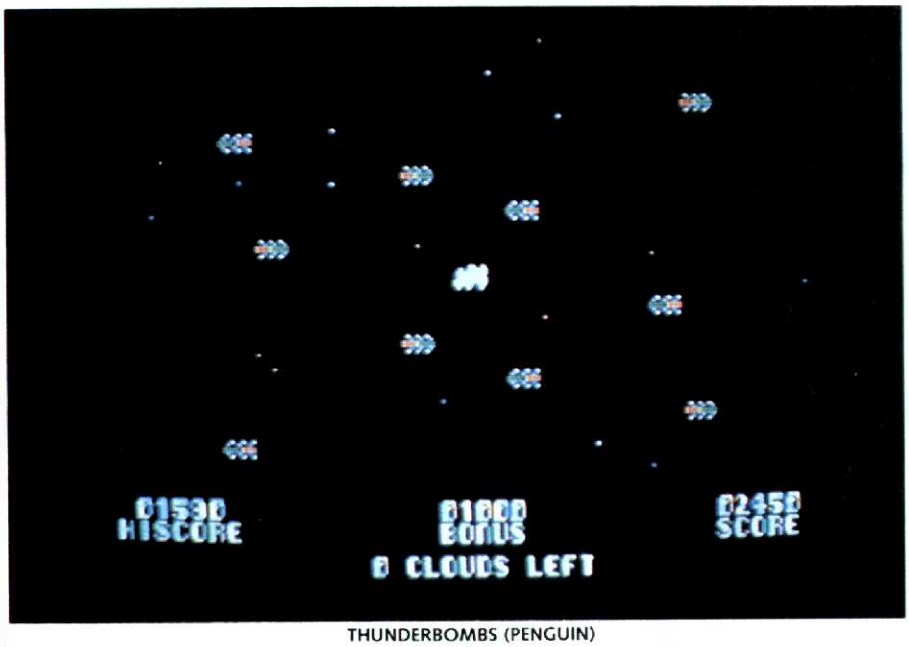
Hitting a Thunderbomb simply results in its replacement, along with bonus points. The only way to destroy the ships for good and move on to more difficult waves is to destroy the mother ship which flies by occasionally. Penguin Software has the reputation for quick, witty, pretty games with addictive plots, but *Thunderbombs* doesn't seem to have many of these qualities. The game seems to be

nothing more than **Space Invaders** turned sideways, except enemies attack from both ends now. The ships in higher waves do a few tricky things, like fly at the ship or away from fire, but certainly not enough to keep the game addicting.

The graphics are not up to Penguin's usual standards. The background is black with a few "dot" stars. The ships are tri-colored little bombs and their shots are two-colored lines.

The thing some players will like about *Thunderbombs* is that it is *very* hard. Players who find most games too easy to master, or not challenging enough to begin with, will be in for quite a shock. However, those looking for a good quality, hi-res arcade game comparable to Penguin's other releases should wait for their next release.

(Frank Tetro Jr.)



THUNDERBOMBS (PENGUIN)

TARGON-64

Designed by Andrew Pal
Net Software/C-64/Disk

There's a rumor circulating in the computer software community that shoot-'em-ups are dying. Some publishers have responded to this implied challenge by producing action games featuring super visuals and complex play-routines. Other companies, seemingly oblivious to the gossip, go blithely along turning out programs like **Targon-64.**

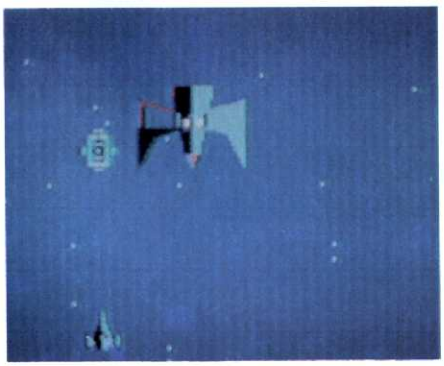
Targon-64 begins with a cartoon-like sequence in which a stick-figure pilot makes his way to his plane. He smartly salutes the player, while a news banner across the top of the screen describes the mission as a hunt for "Commie mutants" in the name of Billy Bob. Things don't improve much when you get to the game itself.

The player controls a plane which fires (and faces) straight ahead and moves from side to side. Various space objects fall or scroll down from the top of the screen. The Communists once again reveal their technological inferiority — none of these things shoot, they just fall in clumps and hope to collide with the hapless gamer's ship. The gamer can shoot, but with certain limitations. Some of the enemy objects are impervious to capitalist firepower; some, like the sputniks, are friendly on contact, but will deflect the gamer's shots, making this one of the few games in which you can shoot yourself. The rest are like the cement in the old joke, they're just there to make it harder.

At the end of each level of play, the enemy base ship appears alone on the screen. It descends until the gamer destroys it or fails to move out of its way quickly enough. However things turn out, the program advances to the next level. On the earlier screens, the base ship blows up more or less spectacularly, but later players are just jumped immediately to the next skill level, getting a free ship in the process.

The higher levels of play are distinguished by more stuff on the screen, including clever butterfly-like ships that move from left to right. Since gamers are unable to change the line of fire, these are impossible to shoot if they come on-screen below or on the same level as the player's vessel. Eventually, enemy homing ships appear which are even more difficult to put out of commission.

Scores are shown only at the end of a level, and aren't all that easy to read, either. Hitting the fire button skips the introductory sequence. Beware: The program jumps immediately into the field of action, usually directly beneath a chunk of Communist space debris.



TARGON -64 (NET)

The graphics and especially the sound are fairly primitive. All the player hears is "with noise" whooshing sounds and "kerpow" explosions. This does nothing to raise an already low interest factor.

The instruction sheet (which consistently misspells the word 'satellite') claims there are 63 skill levels. It is difficult to imagine why anyone would want to investigate past the first three or four.

(Louise Kohl)

FLAK

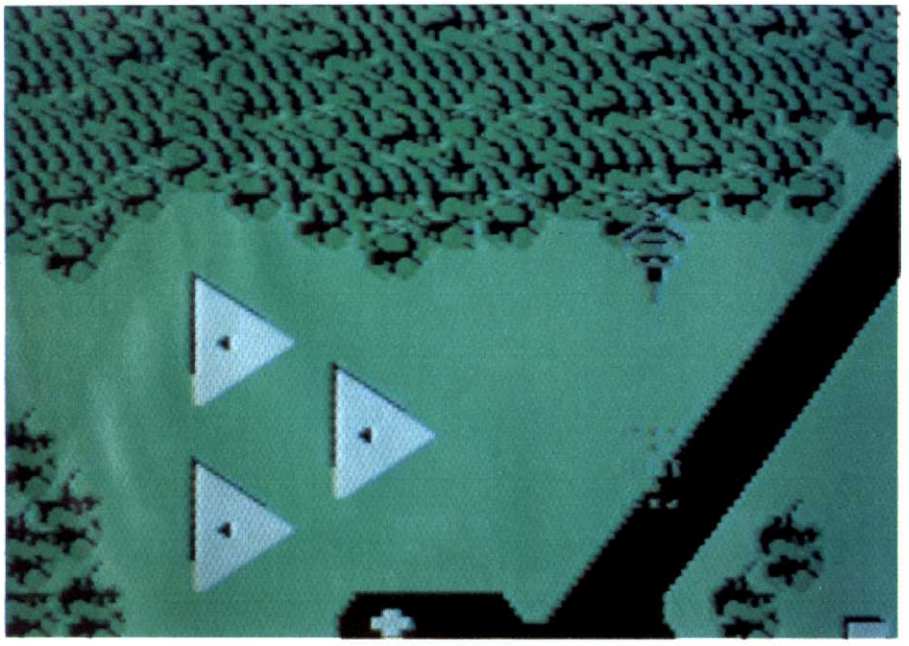
Funsoft/Atari, C-64/Disk

Flak looks and plays a bit like an earth-bound **Zaxxon,** and nothing about it is terribly new. But it's a challenging game that requires some almost impossibly fine maneuvering, quick trigger reflexes and ESP.

112 years in the future, a psychotic computer threatens life as we know it — or as we will know it in 2096. The player is cast as a fighter pilot whose mission is to get to Computer Control and put the *non compos* CPU out of commission. As usual, nothing less than the freedom and happiness of mankind hangs in the balance. Unfortunately, this one- or two-player contest is so often frustrating that the CPU in danger is more likely to be the player's own.

The jet has to cover a lot of territory to reach the primary target — territory that the instruction booklet describes as "awe-inspiring." Now, these graphics are perfectly reasonable, but they hardly leave you breathless. They look like a mixture of aerial reconnaissance photos and first-year geometry — all the flak batteries are tidy orthogonal shapes which fire from dead center. There are a lot of these installations scattered about the landscape, and not only can they fire in any direction, they also have unerring aim.

The number of batteries alone add a sufficient frustration-quotient to *Flack,* but the really nerve-wracking part comes when the player has lost a jet. The computer returns to the jet landing-strip and takes control of a new plane until it arrives



FLAK (FUNSOFT)

at the point the previous jet went down. It can be a little hard to tell just when manual control is returned to the player, and the flak batteries take full advantage of any hesitation. Rather than littering the landscape with the wreckage of gallant fighters, you tend to create an aeronautical graveyard of sorts.

Game-play is pretty straightforward while the player controls the plane. For a fairly simple screen set-up, there's an awful lot going on, and dogfight maneuvers can as easily move the plane into danger as not. Joystick response isn't as quick as one would like, either.

Despite these drawbacks — or because of them — *Flak* can be a challenging, if often infuriating game. If you can keep track of six things at once while trying to line up a target, and possess second sight for where the next attack will come from, give it a try.

(Louise Kohl)

LOST TOMB

Datasoft/Apple II/48K Disk

Stern, a name in the arcades that has meant challenges like **Pooyan, Berzerk** and **Bagman,** has now brought its adventure/arcade **Lost Tomb** into the home. This type of game, using a mixture of arcade reflexes and strategy, has been very popular this year, judging from the number of such games appearing in the stores.

Lost Tomb is played with a joystick. The first button shoots the gun in the direction the man is moving, and the second button brings the whip (a la Indiana Jones) into use to cut a much larger path through walls or through the enemy.

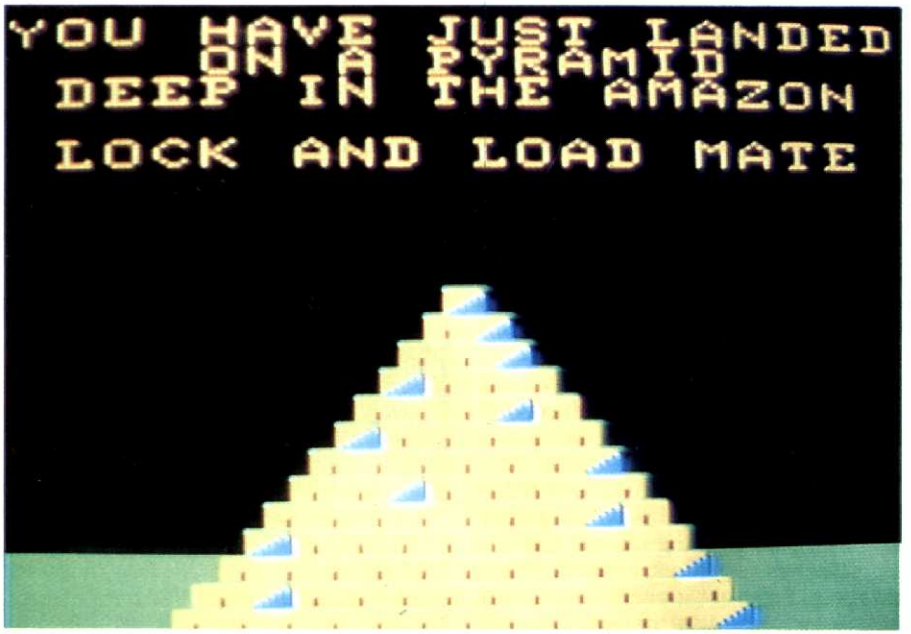
The gamer begins with three lives and, at least at first, you'll wonder where they all went so fast. The player begins with five whips, and more whips are hidden inside chests that can be found in each room. The hero also has a limited supply of bullets per round, but an unlimited number of rounds.

Earthquakes happen at regular intervals. The only way to delay their destructive force is to open a chest, which resets the earthquake timer. For those who like to live really dangerously, it's possible to wait until the earthquake starts to shoots nasties or open chests. This kind of daring results in bonus points.

Shooting foes gives varying amounts of points, depending on what level you're on. Points awarded for open chests have the same graduated scale. High scores are saved only for each session and are wiped out when the game is turned off.

There are 92 rooms and 13 levels to explore, which should keep even the most skilled gamer content for several sessions (or months). There are also enough different opponents, like mummies, scorpions, bats and spiders, to keep each level challenging. Stairway rooms take the explorer from one room to the next, but only courage and quick reflexes will keep the hero alive long enough to see everything in the *Lost Tomb.*

(Rick Teverbaugh)



LOST TOMB (DATASOFT)

TRANSLATIONS

DEFENDER

Atarisoft/Apple IIe/Disk

This adaptation of Williams' award-winning arcade game requires the Defender to save his people and planet from threatening enemy forces. The ship is equipped with a fore and aft thrust system, twin ion laser guns, smart bombs and a hyperspace energizer.

The enemy consists of landers, who descend to the surface, capture helpless people, and whisk them away only to return as

deadly mutants. Bombers lay mines to ram the Defender, while pods release hordes of swarmers who track the ship very closely. Taking too long on any one wave releases the baiter, a computer-controlled ship capable of flying faster than even the Defender. And should the landers escape with all the people, the planet blows up and leaves the arcader alone in space — at the mercy of the entire enemy force!

Defender's graphics while good, are not arcade quality. The scrolling is a bit coarse, and the screen blinks at the ends. The ships move well, but are not as richly animated or as colorful as their coin-op counterparts.

Although play can be controlled with either joystick or keyboard, I'd like to see someone successfully complete a few waves on the keyboard. There are 11 keys to push, often three or more at once, and the computer is very sluggish in responding to keyboard controls.

The game, however, is patterned exactly like the original. Every creature is there, and is worth the same points as in the coin-op. The waves are identical as well, and the sound effects are not bad.

All in all, one must take the good with the bad. If used only with a joystick, and one does not expect arcade graphics, this translation of *Defender* is enjoyable. But, for those stuck with a keyboard, or who want to see graphics comparable to the coin-op, this adaptation of *Defender* falls a bit short of the mark.

(Frank Tetro Jr.)

TRANSYLVANIA

Designed by Antonio Antiochia
Penguin/C-64/Disk

This fine adventure sets an appropriately spooky atmosphere right at the start when it asks the player not only for his or her name, but also "next of kin." Then a clock in the distance strikes the witching hour, and you're off to find the Princess Sabrina.

Transylvania is an illustrated text adventure with remarkably good graphics. They're colorful, detailed and always maintain the eerie "feel." All the objects are easily recognizable, right down to the clove of garlic. It is wise to fool around with anything you see on the screen — and to take whatever isn't nailed down. You never know when the need might arise for a trio of ravenous mice, for example. When an item is taken, the scene on-screen disappears briefly and re-forms itself. Sometimes it looks as if typed information is lost, but it always shows up again. And if the player gets lost or confused, the Return key toggles the game into a text-only mode, which is very useful for reviewing moves or moving quickly through familiar territory.

'Transylvania is an illustrated adventure with remarkably good graphics.'

Two particularly nice touches are the werewolf who forms right before your eyes, and a giant eagle (unseen) who carries the player to another part of the forest. While it can be annoying to be swept off summarily, it means you'll have a fighting chance of covering all the real estate even if your trail-blazing skills aren't up to par.

All in all, Penguin has produced a excellent example of this kind of game, with better graphics and a rather larger vocabulary than usual. The player won't spend valuable time trying to reduce all the commands to words of one syllable or less. The time saved should be put to good use by brushing up on elementary demonology and lycanthropy.

(Louise Kohl)

TRANSYLVANIA (PENGUIN)

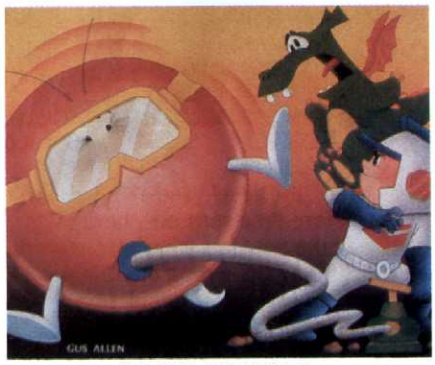
DIG DUG

Atarisoft/Apple/Disk

In **Dig-Dug**, the player assumes the role of a lovable creature who must rid the planet of nasty pookas and fire breathing fygars.

The game is controlled by either a joystick or the keyboard. Players can use the default keys (A, Z, and) to move Dig Dug, or they can customize the controls to any keys they want, which I found to be a very useful option.

In a breath, *Dig Dug* is quite close to its coin-op cousin. The graphics are very well drawn, and the movement is quite smooth. Atari did a very good job of recreating all the little animations that made *Dig Dug* such a popular arcade game. The cute way he dies, the spooky animated ghost eyes, and even the last cowardly creature are all in there.



DIG DUG (ATARISOFT)

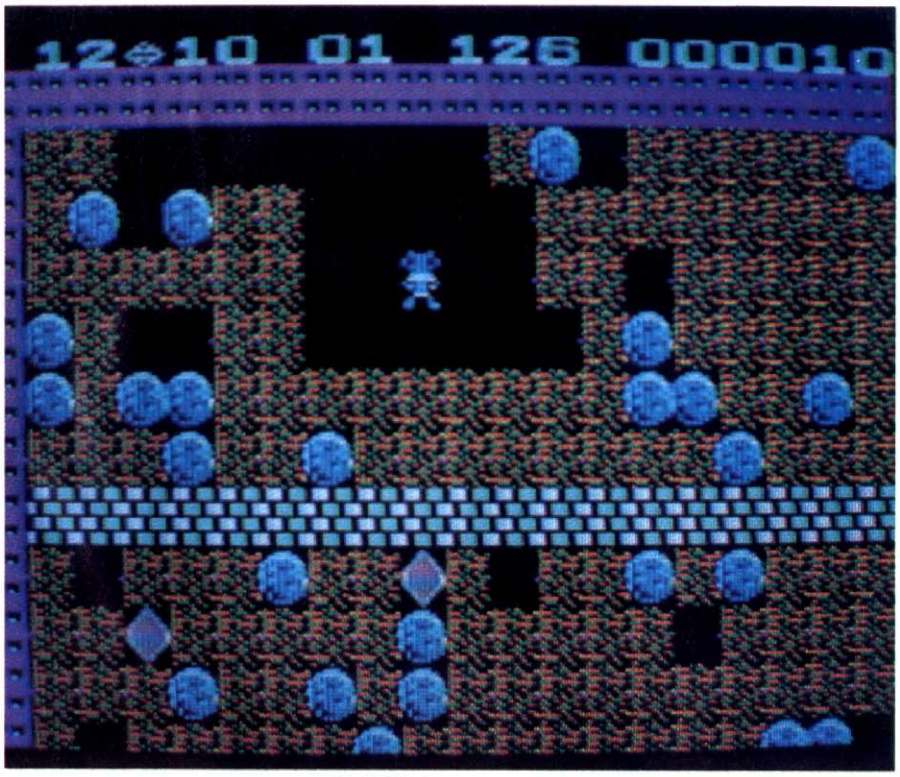
The only possible complaint with *Dig Dug* is the sluggish response of the controls when using the keyboard. It takes a good second for Dig Dug to change directions after you've hit the key. This makes close calls often fatal and frustrating. However, all things considered, *Dig Dug's* adorable graphics and fast-paced action should eventually win the heart of almost any home arcader.

(Frank Tetro Jr.)

BOULDER DASH

MicroLab/C-64, Ap/Disk

This translation of First Star's popular Atari game casts the player as Rockford, whose task is to search through underground passageways moving boulders to unearth buried jewels. Little Rockie has his hands full, though, since he's working against a timer, and a secret "exit" door won't appear until he's collected enough jewels on each level. This door is his only



BOULDER DASH (MICROLAB)

way out of the level, and if he doesn't escape before time runs out, he dies!

Moving the boulders is hazardous work, since disturbing the wrong one triggers an avalanche of rocks that tumbles down on poor Rockie, killing him. There are sixteen different caves and five levels of difficulty. A playable intermission is provided after every four caves, and it adds to the enjoyment of the game.

Each successive level increases in difficulty, and Rockford will have to contend with nemeses like fireflies and amoebas in addition to the boulders. Everything about the game—sound, color, animation, play-action—is excellent. **Boulder Dash** is a fun game you'll really *dig*!

(Tom Benford)

THINK TANK

ZENJI

Activision/C-64/Disk

It's nearly impossible to categorize this strategy offering, which blends action and maze-chase elements with Eastern philosophy to produce an enjoyable, if low-key, entertainment.

The object of **Zenji** is to connect all the elements on a grid to a single energy source. To do this, the player must rotate each of the grid sections until the lines interconnect, networking the grid together in an energized green line. To rotate a grid, center the on-screen hero in a grid section, then move the joystick to the right or left while pressing the action button. Gray lines mean the section is still "out in the cold," while green indicates a successful hook-up to the source.

As the game continues, new challenges are introduced. For example, one section of the grid might feature a timer, which quickly counts down to zero. Reach that grid section before the timer elapses to earn a bonus. Another addition is an enemy that wanders along connected grid paths. One touch is fatal, but some quick thinking can trap it in another area of the board — for the time being, at least.

Zenji is a race against time to connect all paths to the source. The most interesting element of the program is that players don't really have to plan or strategize. Rather, the program encourages the gamer to see the entire board as a single unit, then let his or her instincts be the ultimate guide to the energy source. There's a first: a real Zen computer game!

The up side of *Zenji* is that playing it is relaxing. By concentrating on the grid screen and the slow, smooth movements on it, the player can be transported to an almost-meditative state, making this program a success where **Worms?** failed. The downside is that the game's excitement level is basement level. Graphics are adequate, and the *Zenji* theme is orientally-inspired and pretty, if a bit repetitive.

Thrill seekers, keep seeking. But those with a taste for the offbeat and unusual will find this an entertaining (but not addictive) thought-provoker.

(Tracie Forman)

FORTUNE BUILDER

Coleco/ColecoVision, Adam/Cartridge

Although in its one-player mode this joystick-operated real estate development game is little more than a basic economics lesson, a second player makes **Fortune Builder** more fun than an all-night Monopoly game. Would-be Helmsleys and Trumps must amass a fortune by turning raw land into profitable residential, business, and resort enclaves.

Beachfront, lakefront, grassland, and snow-capped mountains each have good and bad qualities, and building costs vary according to land type. Armchair real estate developers use several keys on the keypad to choose what, and where, to build. The action takes place on a split screen, so two can compete simultaneously.

Roads and gas stations are essential for maintaining traffic and the resulting commerce. Strategy is mainly common sense (i.e., hotels don't flourish next to oil refineries), though the competition of a two-player contest makes almost any combination possible. After all, you can't just sit and watch your enemy building a profitable ski resort without at least *trying* to open a nearby coal mine!

As if things weren't cutthroat enough, random news flashes indicate problems with particular types of real estate. For example, casinos are hard-hit when the legislature tries to close them, while roach infestations can really bug owners of apartment complexes.

There's a wide variety of buildings to erect, spanning such diverse properties as condos, hotels, boardwalks, and restaurants. Each structure is represented by its own icon, which is easily identifiable on the playfield. Certain establishments blend well together, creating and maintaining a steady stream of traffic. But others can actually repel visitors (campground vacationers hate eating in restaurants, for example). Seasonal vacation patterns also effect profitability.

At year's-end, the computer displays each player's financial picture, including accumulated debts and their interest rates, income, and total net worth. During the

FORTUNE BUILDER (COLECO)

game, players have the option of selling off unprofitable businesses to brighten the financial picture a bit. In one-player games, there's a five-year time limit. If the gamer doesn't make the appropriate fortune, he or she loses. In two-player games, the action lasts until one player wins.

The graphics are colorful, well-drawn, and easy to understand. The theme music is pretty and takes full advantage of the ColecoVision/Adam sound capabilities.

Fortune Builder is the only game of its type available for the Coleco/Adam family, though this battle for big bucks would be a credit to any system. Coleco has been slow to release new games in the past, but titles like *Fortune Builder* prove they're taking the time to put quality where it counts.

(Tracie Forman)

CRIME AND PUNISHMENT

Imagic/PCjr/Disk

Crime and Punishment, from the long-inactive Imagic, is a *marvelous* piece of software that will not only educate and enlighten its users, but prove more entertaining than "The People's Court" in the bargain.

Developed by professors Jack Kress and Graeme Newman and based on data from thousands of actual crimes, gamers get to play at being a legal judge and then compare their sentences with those most commonly rendered by the real magistrates as computed into *Crime and Punishment* by Rick Oliver.

The game begins with a crime being listed beneath the graphic of a justice at the bench. Since these are actual cases, they can get pretty rough (there's a torture/rape/murder and several crimes of violence.) But the presentation is clinical.

The details of the crime can be scanned, for openers. This lists all property damage or loss; the offender/victim relationship; the weapon used and physical injury; demographics of defendant or plaintiff; and the excuse given for the crime ("The defendant said the devil made him do it."). Remember, even if the defendant claims innocence, the jury has already passed a guilty verdict!

Next the player/judge moves on to the defendant's record. Here, computer magistrates pick and choose information from among the following categories: fugitive status (outstanding wants or warrants); reputation; prior crime types; juvenile blotter; and adult priors (arrests and convictions).

Finally, the pre-sentence report goes up. This includes the defendant's upbringing, mental history, personal details, employment history and similar errata — but the courtroom details *are* worth checking out.

With all the information — relevent and extraneous — is retrieved, the arm-chair arbitrator can then opt to review the facts in the case. Using a graphic of a clipboard and gavel, all previously obtained data is run up for a final perusal before passing sentence. If the case involved a murder, the option of the death penalty appears. Otherwise, sentences consist of probation, jail (up to 2 years) and prison (the Big House, up the river, etc. etc.). The player's judgement is then weighed (using an actual graphic of the "scales of justice") against the sentence the computer determines the majority of American magistrates would have imposed, and a "judicial IQ" is awarded. This rating is based not only on how closely the judgements match, but also on the number of questions and type of information asked. If someone is guilty of computer theft, for example, their upbringing is hardly relevant. Being snoopy is fun, though, so most players will probably find themselves wanting every bit of detail — personal background to juvenile crime status—and judicial IQ be damned.

There *are* a few quibbles. Too often, for example, a defendant has, say, six arrests and four convictions among his priors, but the data on the crime types is unavailable. Huh? I mean, if the guy has not only been busted, but *convicted* as well, my judicial temper was strained more than once by scanty information that any court should have instant access to. Moreover, while the computer chucks all manner of silly details into the data pool (the defendant is attending night school, once belonged to the KKK and keeps a pet iguana), much primary information is neglected completely.

CRIME AND PUNISHMENT (IMAGIC)

One case I "heard" involved a man arrested for cocaine possession. Fine. But not only couldn't I find out if he intended if for sale or private use, the *amount* of the drug confiscated was not included in the available information!

There are also too many cases involving the same type of crime, and on all cases involving murder, rape/murder and especially cop killing, you can bet the house on the death penalty being invoked. (Anyone raping and murdering a *cop* is the ultimate sure-shot for "lights out!").

The graphics (mostly static drawings, with the exception of the on-screen judge rating the player's performance with anywhere from one to ten bangs of his gavel) are impressively executed by Matthew S.C. Sarconi, and really bring a realistic air to the proceedings. The clipboard, judge and scales of justice are all expertly rendered.

Crime and Punishment is a very, very fine piece of work. It's novel, innovative and, believe it or not, makes a fantastic party game ("Hang the bum!" Uncle Louis will be shouting after his fifth brew). If only a little more variety and a greater degree of *pertinent* information were available.

Still, there's nothing else quite like it in the world of computer entertainment and though I have some reservations regarding certain programming choices, the verdict is favorable for anyone looking for something that's off-beat, educational and entertaining beyond all expectations.

(Bill Kunkel)

FLEET FEET

CBS/Commodore 64/Disk

You've really got to think on your feet in this one- or two-player race. The object is to pound up the celestial escalator as fast as possible while avoiding obstacles and taking advantage of good things.

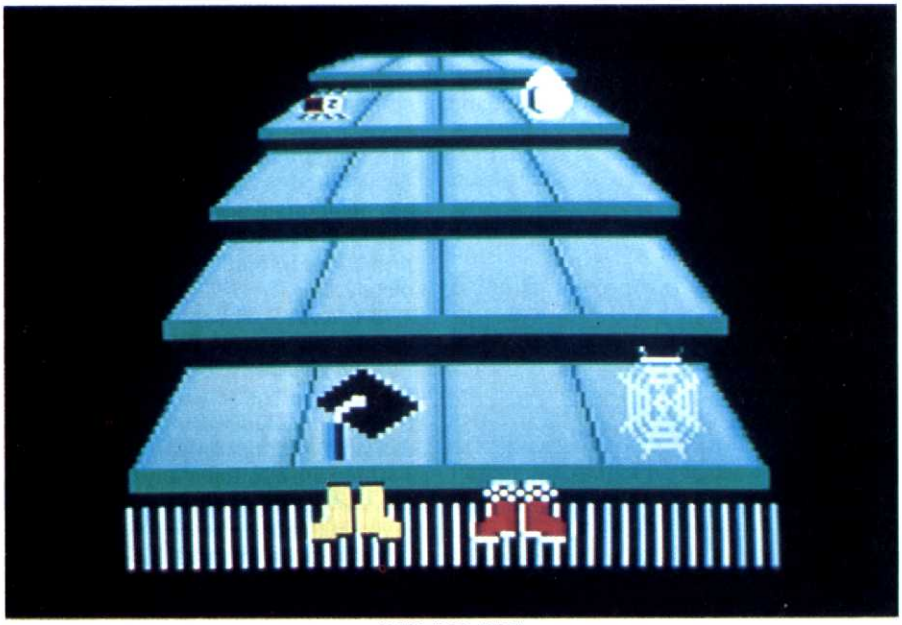
Forget the concept of the well-rounded athlete. You need a team of runners for this game, so choose a squad composed of differently shod pairs of feet. Depending on the variation, the program picks an assortment of feet or the computerist hand-picks the team.

There are 16 pairs of feet, each with a unique attribute. Sneakers run fast, skates zip on ice, spring shoes leap over barriers, and so forth. The joystick moves the feet up and down the steps or sideways across the four lanes. The action button switches feet, but a used pair is unavailable until the race's next lap. There are 14 objects, called 'Things' in the rules, which dashing feet can encounter. The main area of strategy is to learn — and then capitalize upon — the interactions between the Feet and the Things. Sometimes, a pair of feet can jump forward by touching a Thing, sometimes the Thing is a barrier, and sometimes it can actually force the runner back toward Bigfoot at the bottom of the screen. (Returning to Bigfoot isn't always so bad. While there, the computerist can cycle through the roster of available Feet without using up any of them in the process.)

The "run your own race" option offers the chance to customize the game to individual taste. A few simple commands allow the player to determine the composition of the team of Feet, the variety and frequency of Things, and the speed of the escalator. It is also possible to play solitaire versus the machine or against a human opponent.

Children's Television Workshop developed **Fleet Feet.** The repetitive and cutesy documentation is only one obvious reflection of this fact. Unfortunately, this will probably limit the audience for the game. That's too bad, because *Fleet Feet* is an enjoyable family/social strategy game. The play-mechanic is so innovative that one can only wish for CBS to produce a harder version with more Things as a sequel.

(Arnie Katz)

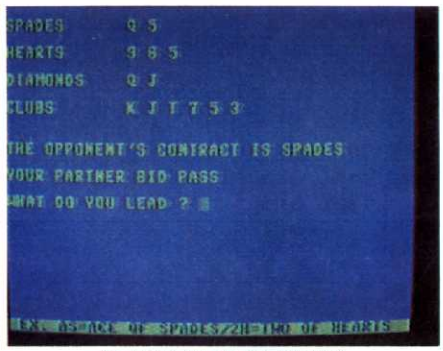


FLEET FEET (CBS)

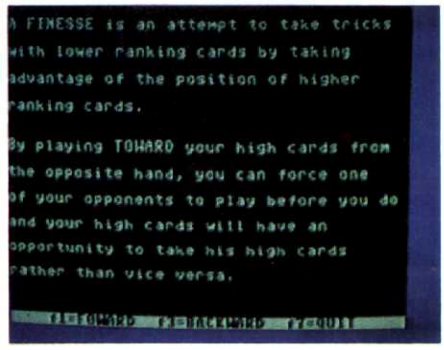
COMPUBRIDGE

Artworx/Apple, Atari, C-64/Disk

While bridge is a lot of fun to play, learning it can sometimes be a problem. The rules are straightforward enough, but numerous. When they're translated by friends — all of them itching to make up a fourth and get down to business — things can get confusing, to say the least. What you need is a tutor that takes things one at a time, doesn't move on until you've understood, and isn't impatient to start a game. And that's just what Artworx offers in **Compubridge.**



COMPUBRIDGE (ARTWORX)


A FINESSE is an attempt to take tricks
with lower ranking cards by taking
advantage of the position of higher
ranking cards.
By playing TOWARD your high cards from
the opposite hand, you can force one
of your opponents to play before you do
and your high cards will have an
opportunity to take his high cards
rather than vice versa.

COMPUBRIDGE (ARTWORX)

Compubridge is based on the writing of Shirley Silverman, author of several popular bridge books. Text and quizzes are all on disk; there's no need to refer to a book or chart. In spite of a few weaknesses, this is a very good tutorial, especially for the rank beginner.

The first option offered to the player on this program is changing the color of the screen, border and/or text. It is wise to exercise the option, since the program's choice is black on white and it soon gets a little eye-wearying. The program itself is divided into two parts: a text section and a quiz section, both broken down by topic. The ten text sections are baby-simple and clear. The first section covers everything from how many players are needed to what the suits are and how they are ranked. Nothing is assumed. Each section of text is accompanied by a relevant quiz, in addition to the eight more advanced quizzes offered later in the program. Go to the advanced quizzes as soon as you feel confident enough; in some of the other quizzes, the same question can appear twice in as few as six hands.

Even if the user runs through all sections in order, there is a lot of to-ing and fro-ing between program and main menu. Fortunately, even on the Commodore 64, the access time is short. This makes skipping around the sections a fairly simple matter, too, and the user has any bridge-playing experience at all he or she will probably want to do a lot of skipping.

In the advanced quizzes, there can be more than one right answer to a question — a real life situation that any bridge player will recognize. However, the computer does not always "play fair" in these ambiguous situations; it may give a qualified response and still note the answer as wrong. Still, this is a mild-mannered program which reacts calmly to the most off-the-wall responses. Even if the user tells it to lead a non-existent card, it will respond with "a possibly better answer is. . .". This alone puts it one-up on most human tutors.

The one thing that *Compubridge* does not offer is the chance to play a complete hand from first bid to last trick. For this, you'll need either three more people or Artworx's excellent **Bridge 4.0** program.

(Louise Kohl)

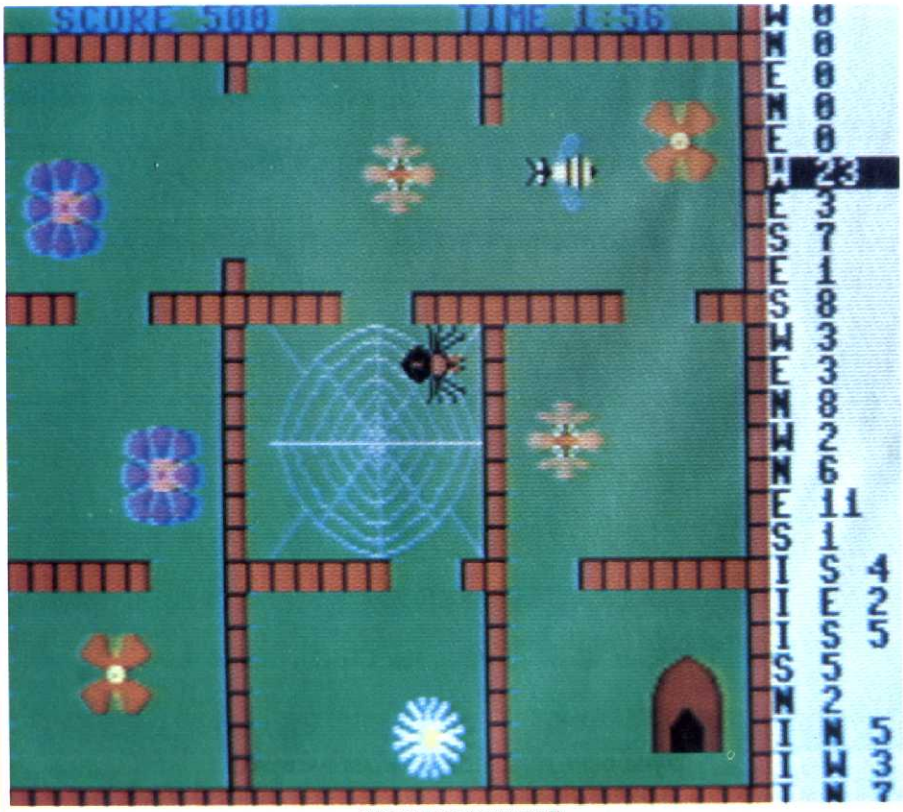
BUMBLEBEE

Designed by Greg Brewer
Creative Software/C-64/Disk

The title screen for this program announces it as "the first step into the world of programming." This is like saying that holding up fingers to show your age is the first step into the world of differential calculus — it may be true, but the goal is somewhat removed from that first step. **Bumblebee** purports to give instruction in basic (not BASIC) programming. Although the instructions don't say so, this seems to be a program for young children, no older than eight.

With this proviso, *Bumblebee* could be useful in helping children become comfortable with computer use. It's just not a terribly exciting way to learn, although it has its share of gimmicks. There are two parts to the program: a more-or-less straightforward game using the joystick, and the programming section, using the keyboard. In both parts the object is to maneuver Bart the Bee from flower to flower, avoiding brick walls, spiders and frogs, and then to return him safely to his hive. Running into a wall, stopping short of a flower, or being eaten put the bee into a spin and end the game. Players are then treated to a 'newspaper' page with a headline such as "Bee Lost." There are 10 levels of play, with increasing complexity.

In the programming section, the player is asked to give the bee a complete set of round-trip directions. This is done with directional letters (N, S, E, W) and numbers.



BUMBLEBEE (CREATIVE)

The numbers tell Bart how far to go in a given direction; the distance is determined by counting the bricks lined up on all four sides of the playfield. There are special programming commands, too, which allow looping (repeating a pattern), inserting new lines in the middle of the program, and an "if safe" command. This command tells Bart not to make a particular move if it puts him in the path of a natural enemy.

The game section allows the computerist to move Bart by joystick control, but he still moves in straight lines — no aerial acrobatics. In both modes, points are determined by the kind of flowers the bee touches — his pollen count.

Bumblebee could be useful in teaching children how to manipulate a computer, and how a list of typed lines can tell the computer what to do. However, many child who takes to the idea should move on fairly quickly to programs that allow more scope than flying a bee.

(Louise Kohl)

PASSPORT TO ADVENTURE

GWENDOLYN: PURSUIT OF A PRINCESS

Artworx/Commodore 64/Disk

Ages ago Hillsborough's king passed away, leaving the throne to his eldest son. The youngest was so infuriated he left to become the Troll King, ruler of the underground empire Tunnelworld. On the day of his brother's wedding the Troll King sent a dwarf army to capture the royal bride. The elder sibling then undertook a quest to recover his love, but was never heard from again. In this offering, computergamers find themselves cast as a descendant of the original lineage, facing a similar situation.

This is not the usual illustrated adventure in that two joystick-activated menus control all the action. A directional indicator, present below the visuals, allows questers to maneuver around the environs by pushing the joystick in the desired direction and depressing the fire button. In actual use, this arrangement is awkward, to say the least!

Since all the possible options are spelled

GWENDOLYN: PURSUIT OF A PRINCESS (ARTWORX)

out in the limited menus, the thrill of learning new applications or ways of accomplishing tasks is missing — though the frustration of a 'guessing game' is removed as well. Keyboard entry isn't possible, so the normal elements in this type of challenge are also missing. There's really no interaction at all!

Many of the 90 graphic screens repeat sequentially with no variation, so at times it appears as if nothing's happening. Moving to another location causes the screen to blank out, even if the disk isn't being accessed, while the supposed animation is of a very limited nature. Besides, the visuals are on the bland side.

The good news is the program's well-executed soundtrack. But the downside is that it plays only before the adventure begins.

There are secret passages, cryptic messages, and obstacles to overcome, but they are all rather uninteresting. For the most part, adventure games have moved far beyond what **Gwendolyn** has to offer

(Ted Salamone)

PYRAMID

Aardvark/Commodore 64/Disk

Illustrated text adventures have under gone a revolution recently. Vocabularies have increased tremendously, parsers can handle multiple statements, high resolution text has been incorporated, and the degree of user interactivity has improved dramatically. Some even alter the visual display to accommodate changes brought about when objects are moved from location to location!

That's the good news. The bad is that Aardvark's **Pyramid** does not include any of the aforementioned advances. This Commodore 64 adventure is billed as requiring an average of 50 to 70 hours to solve. Lack of a save game option probably accounts for over half of it.

The top half of the screen displays the graphic rendition of the "rooms," while the lower half contains the text. With both displayed simultaneously, there is no way to toggle between text only and graphics/text to travel quickly through areas previously visited. Even more unusual is the fact that the visual display scrolls off the screen as commands are entered. To recover a picture, the LOOK command must be entered without a noun. This becomes annoying when Egyptologists using the picture for clues have to stop what they're doing to recall the wandering scene.

The first two letters of each verb-noun statement are all the computer understands, though the Inventory function needs the first three. The documentation is very sketchy, forcing compugamers to discover verb and noun combinations that work.

Though *Pyramid*'s plot twists and predicaments are standard fare, some mental activity is required. A healthy curiosity helps too!

Directional control is more complex than it needs to be since the GO command and a direction must be entered. Typing in the first letter of the desired direction just won't work.

There are typos and spacing errors thoughout the program, creating a rather shabby, unprofessional appearance. Use of the standard keyboard generated graphic symbols for the pictures only adds fuel to the fire.

Strange things happen after adventures leave the starting point, an archaeologist's hut. Traveling through the desert is surrealistic as there is no continuity. Travel east for five moves, north for two and then west for two, and you'll most likely wind up where you started from. It's like using a map made in the Twilight Zone.

Though there is a limit to what can be carried by hand, a knapsack allows for unlimited storage. This warehouse space ruins the challenge (and fun) of learning the combination of items needed to get out of sticky situations. Coupled with the inexplicable ability to take the stream, it becomes possible to put the body of water in the sack. Talk about excess capacity!

A vague goal (perhaps just looting a tomb), pitiful illustrations, and inept interaction make *Pyramid* a weak adventure offering. This isn't the way to see the Nile!

(Ted Salamone)

SEASTALKER

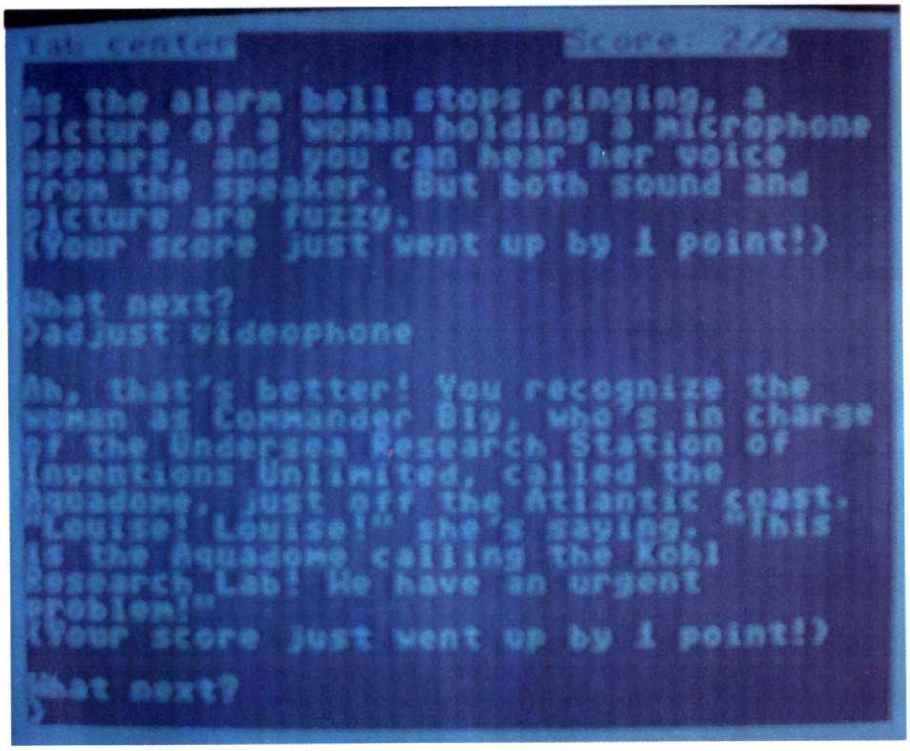
Infocom/Most computers/Disk

The sea has been the setting for many mysteries in the past, among them the unsolved mysteries of the Bermuda Triangle and the puzzle of the lost continent of Atlantis. And now, with Infocom's release of **Seastalker,** there is a new underwater mystery to titilate would-be detectives for years to come.

Seastalker pits the adventurer up above, in a comfortable laboratory stocked with all the modern conveniences, against the Snark, a mythical sea beast which is terrorizing the scientists in the Aquadome Underwater Research Station. As the leader of the corporation that created Aquadome and a member of the "Discovery Squad," the gamer has been commissioned (read: ordered) by the President to get everything working smoothly by the time he comes to christen the Aquadome and the firm's new mini-sub, the Scimitar.

No easy task this; the trouble starts as soon as the emergency call comes in over the videophone. Then it's touch and go as the gamer fights his way through a variety of problems, from the mundane, as in figuring out how the heck to get the Scimitar started, to the more unusual, as in how one goes about subduing a hideous sea monster which is larger than a submarine.

The problems are all devilishly simple once players work out the solutions, which are perfectly logical. And Infocom has included all necessary maps in the cleverly


As the alarm bell stops ringing, a
picture of a woman holding a microphone
appears, and you can hear her voice
from the speaker. But both sound and
picture are fuzzy.
(Your score just went up by 1 point!)
What next?
>adjust videophone
Ah, that's better! You recognize the
woman as Commander Biy, who's in charge
of the Undersea Research Station of
Inventions Unlimited, called the
Aquadome, just off the Atlantic coast.
"Louise! Louise!" she's saying. "This
is the Aquadome calling the Kobi
Research Lab! We have an urgent
problem!"
(Your score just went up by 1 point!)
What next?
>

SEASTALKER (INFOCOM)

designed game package, as they did in **Suspended.** All of this leads up to one thing: Infocom bills *Seastalker* as the first in its line of "Junior Interactive Fiction."

In other words, *Seastalker* was designed for kids. The only problem is that most kids who are capable of understanding an adventure game are likely to enjoy the intricacies of complex games like **Enchanter** and **Planetfall** the most. In *Seastalker,* opening a closed door is never a matter of, for example, finding an oil can, oiling the control panel and crawling through the opening created by the resulting short circuit, but rather something to the order of "Open door." And, worst of all, if the player spends too much time on a given problem, the solution appears on the screen. True, one must refer to the "Infocards" which accompany the game to decipher the solution, but it still is a bad idea to give away answers.

After all, who would pay $49.95 for an adventure game that poses no challenge?

On the other hand, aside from being overly simplified, *Seastalker* is a relatively good game. The story is interesting, and there are plenty of plot twists to hold the player's attention. The prose is magnificent, and the vocabulary tremendous. The game's locations are all mapped out, and so hold no surprises, but this is somewhat counteracted by the fact that there is a cast of nine very realistic, unique supporting characters who do their best to help — and hinder — the mission.

All in all, *Seastalker* is recommended.

(Charles Ardai)

ELECTRONIC PRESSBOX

TOURNAMENT GOLF

Avalon Hill/Apple II/48K Disk

It's been a tough day — for that matter a tough tournament. For 71 holes you've been beating your brains out against a field that includes Tom Watson, Greg Norman and Fuzzy Zoeller. For the past 17 holes, those three have been at your heels at every stroke. Now at 18, after a good drive and a better than average approach shot, you stand about 30 feet away from the hole on this par four finale.

The first decision is whether to charge the hole for a win and take a chance on leaving a tough putt for par coming back, or to lag it toward the hole and virtually insure the playoff. You decide to go all out for the win. You read the green, it has a slight break to the left. You take just a little off the strength of the stroke to allow for the downhill run, but leave just enough so it will climb to the hole.

Maybe you won't be able to visualize all this excitement when you play **Tournament Golf,** but the realism described above will be hard to miss and harder not to appreciate each time you boot up.

Though the famous names will be missing, this program uses the reflexes, golf knowledge, and judgement of the gamer as opposed to the skills of the touring pros, so all the rest of the game as the pros know it will be at your disposal.

Up to four players can compete at the same time, with the computer recognizing all the rules of the honor system. There are also two levels of difficulty. At the amateur level, it is only necessary to hold both paddle buttons in for the same duration to hit a straight shot. The longer the buttons are depressed, the longer the backswing and the harder the shot is stroked.

At the pro level, the gamer must use one button to control the golfer's arms and another to control his wrists, and a sychronized (but not equal) depressing of both button is required to send the ball in the direction and for the distance required. There is a game option to hit at the driving range or on the putting green for a while to get the hang of it. Failure to get the proper balance between the arms and wrists will result in hooks and slices.

TOURNAMENT GOLF (AVALON HILL)

The screen displays an overhead view of the hole until all golfers have gotten onto the green. While shooting on the fairway, a cutaway in the lower right-hand corner of the screen displays the stick-form golfer so that you can visualize his backswing and coordinate the arm and wrist movements.

Of course, all the normal hazards of golf come into play, like water, trees, rough and even the wind. But nothing about the game is as challenging or as much fun as putting. Long putts mean using mostly the arms, but shorter putts mean using the wrists alone, a process that is tricky alone, but with the added problem of the green's contour, it is one of the most challenging

tests in computer sports.

The game can be saved after any hole for later play and the low score is remembered. There are two different courses on the master disk and two more available as a separate option.

If you want the challenge of the pros without the tension or greens fees, *Tournament Golf* will be just the ticket.

(Rick Teverbaugh)

ENTERTAINMENTS

TALES OF ADVENTURE

Designed by Information Technology Design Assocts., Dan Klassen, Producer
Scholastic Wizware/C-64/Disk

Sometimes it's possible to sugar-coat learning experiences so successfully that users don't even know they're being educated. CBS produced such a game in **Time Bound,** actually a history tutor disguised as a time-travel strategy game. Sunburst's **M-ss-ng L-nk** helps kids learn to read and spell, while posing as a great word game for all ages. Scholastic's award-winning **Agent USA** teaches geography, while the gamer foils an invasion scheme.

Adventure stories on disk are another good example of such double-barrelled entertainment/educational software. On the one hand, they involve players in exciting scenarios, allowing them to make choices and face dangers as stars of on-screen dramas. On the other hand, unbeknownst to the young learners, they are getting practice in reading comprehension, assistance in developing good critical thinking patterns, and help in learning to make decisions based on information at hand.

Tales of Adventure contains two illustrated text adventures for the younger set (ages 9 and up) which were originally in Scholastic's interactive magazine, Microzine. "Adventures in the Microzone" casts the gamer as the victim of a computer accident that makes him or her shrink. To regain normal size, the tiny computerist has to find the operator's manual, making a harrowing trip through drinking straws, spiders, boots and past the family cat. Each decision point produces multiple paths for the computerist to choose between, and the story progresses according to the choice made. Illustrations spark the adventure at key scenes, some of which require a little hand-eye coordination to steer the on-screen hero through, (like the maze of drinking straws the shrunken gamer traverses).

"Northwoods Adventure" features an expedition in the wilds, through dark woods that are animal infested. Bears, white water rapids and other dangers make this a thrilling trip that the computerist must try to complete in order to get back to camp before nightfall.

Both adventures are tailored to suit the young crowd. The language is easy to read, and the accompanying pictures are well-designed and pleasant to look at. Unfortunately, when the gamer starts maneuvering the on-screen character through mazes, etc., the action is jerky, slow, and hard to control. These episodes could have been omitted, since they add little to the pleasure.

TALES OF ADVENTURE (SCHOLASTIC)

But the stories themselves are entertaining. They both have enough plot twists to remain enjoyable through several play sessions, before the computerist fully explores all their branches, making these adventures exciting teachers for youngsters needing help in reading comprehension.

(Joyce Worley)

TALES OF ADVENTURE (SCHOLASTIC)

BREAK STREET

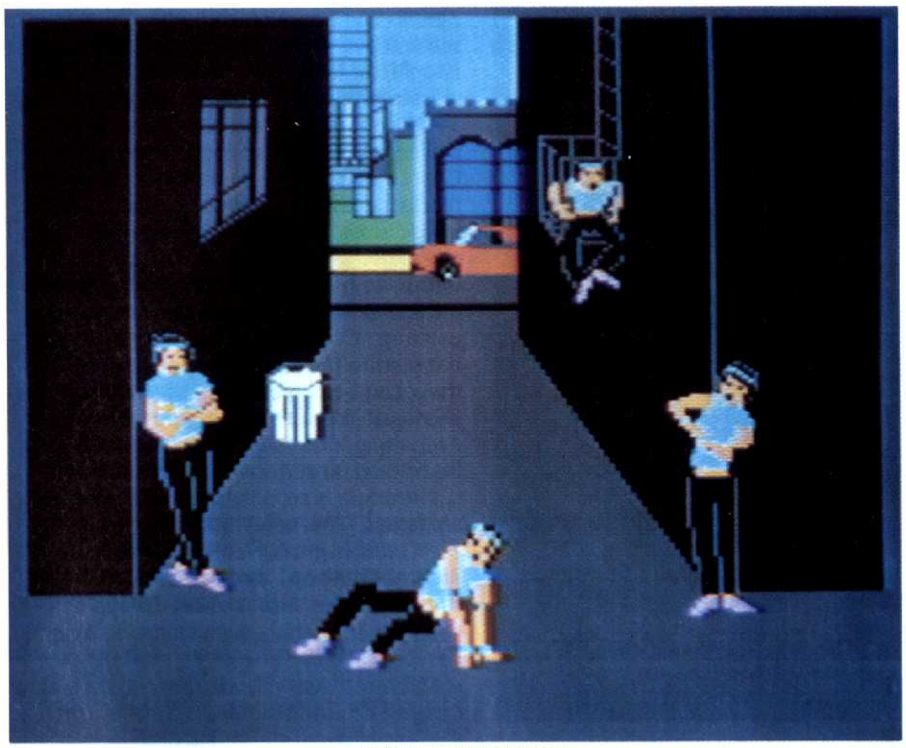
Designed by 3-2-1 Software
Creative Software/Commodore 64/Disk

Tired of being a sane, sensible and serious adult? With **Break Street,** you can spin around on various unlikely parts of your anatomy just like the Young Maniacs on the T.V. dance shows. There's no threat of public ridicule, and you don't even have to worry about tearing a ligament or ripping your designer jeans.

Break Street offers two modes of play, "warm up" and "competition." The former is a solitaire entertainment which allows the computerist to choreograph a break-dance routine of up to 3½ minutes duration. The competition mode grades one or two participants on the fluidity with which the on-screen breakers change from move to move.

The program includes four different dancers, Whiprock, Showrock, Double-Trouble (two guys who dance in sync) and D-Dog. The F3 key cycles through the choices, and tapping the joystick puts the desired dancer into action. Hitting F5 toggles between warm-up and competition.

The dancers' movements are programmed using the joystick. A dancer is either standing (Uprock) or down on the ground (Footwork), and there is a different set of commands for each basic position. Pushing the stick down when in Uprock switches to Footwork, while pushing the stick up while performing Footwork



BREAK STREET (CREATIVE)

changes to Uprock. In warm-up only, pushing the action button engages slow motion, useful for making the various acrobatics dovetail more smoothly.

The computerist ends the performance by inputting a "freeze!" or "check!" command—using moonwalk or tut to move off the screen—or by running out of time. Tapping the joystick after finishing a routine starts an instant replay. The recorded routine can be modified in progress by hitting the stick and entering new steps.

Break Street is more fun as a visually diverting recreation than as a competitive game. Learning to initiate a move at the right moment—the joystick is otherwise inactive — takes skill, but manipulating the cast of breakers is the real attraction.

A program like this ultimately rises or falls on its graphics. The design house, which is also responsible for the recent **HesGames 84**, has risen to the occasion. A well-rendered street serves as the backdrop to all the big-time breakin', and having the dancers lounge in the background while awaiting their turn adds to the scene's authenticity.

The animation may be the best yet for the Commodore 64. The dancers look good going through their gyrations, which makes this disk almost irresistable to those who like to putter with entertainment software.

One question which simply can't be answered yet is *Break Street's* play-life. There are 18 possible moves, and while that sounds like a lot, shuffling them in various combinations may not be endlessly enthralling. On the other hand, this is the type of no-pressure program which many computerists find relaxing as well as stimulating, so it may last a long time if not played with the same relentlessness as the latest computer action title.

(Arnie Katz)

STORY MAKER

Designed by Bobbit!
Sierra/Apple/48K Disk

Every computerist can write an illustrated electronic story with a creative story construction kit. It features a built-in mini word processor to write stories, poetry, text games or even letters, diaries and journals. Then the graphics maker helps create illustrations to insert in the stories. The result combines the text and pictures, for illustrated tales with homespun flavor.

Operation of **Story Maker** is really very simple and straight-forward. The computerist draws as many or as few pictures as desired, then writes text to accompany them. The software inserts the pictures where the computerist wants them to appear, adds a title page to the creation, and it's ready to read back. The editing option lets the hopeful hack change and correct anything in the story or illustrations even after it's finished.

STORYMAKER (SIERRA)

The drawing screen works with joystick, touch tablet, mouse or keyboard. There are several artist's aids, including automatic circles, squares, and point-to-point lines. For fine detail work, paintings can be completed pixel by pixel. Then the coloring option fills in the hues desired.

The game comes with the master *Story Maker* plus a blank disk to get would-be Shakespeares started. The completed story disks can be loaded and read without the use of the master, so they make nice little gifts (or greetings or letter). There's even a supply of *Story Maker* disk labels to personalize the finished product.

Story Maker is an open-ended entertainment. It's actually designed for kids 7 to 14, but there's no reason why older computerists wouldn't enjoy this kind of creative tool. Its only limitation is really the imagination of the user.

(Joyce Worley)

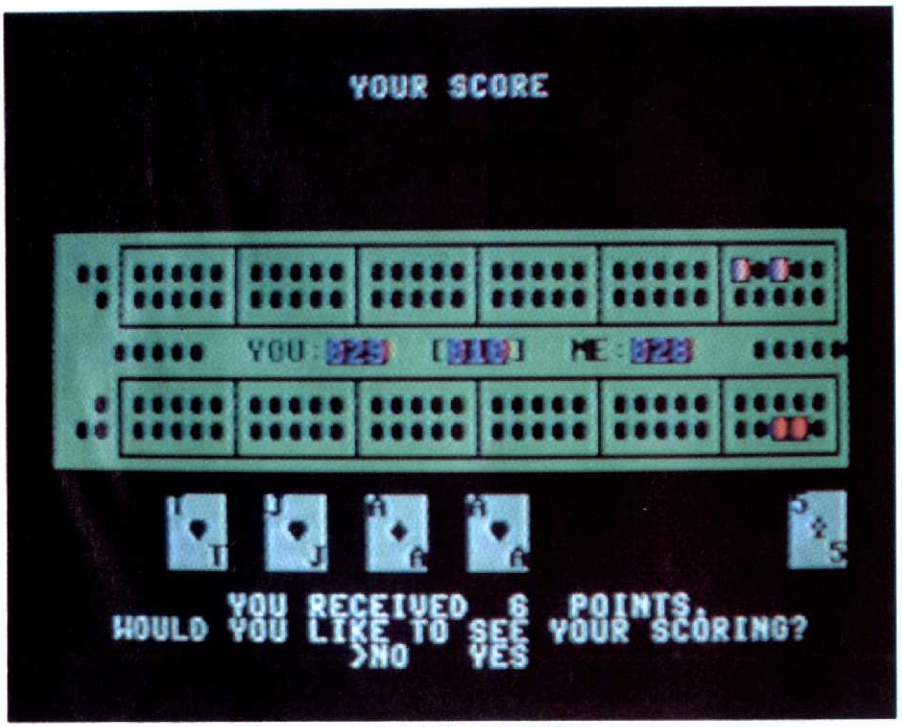
KING CRIBBAGE

Designed by Randi J. Rost
Hayden/C-64/Disk

Cribbage has been around since at least the 17th century and has found dedicated (and even fanatic) players ever since. While it's certainly tamer than, say, **Zaxxon** or even **David's Midnight Magic**, it must have something going for it to have maintained its popularity this long. In publishing **King Cribbage**, Hayden has acknowledged that some gamers have a hankering for quieter, more traditional competition, and has produced a fine electronic version of this old card-and-board game.

For those who are unfamiliar with cribbage, it is played with regular playing cards and a rectangular board. Points are accumulated through various combinations of cards in the hand and the 'crib,' and are tallied on the board by counting off the appropriate number of holes with a peg. Each player begins with six cards and discards two of them; the four discards are the 'crib,' which belongs to the dealer. The deal alternates between players with each hand. The *King Cribbage* program is not a tutorial, but the rules of the game are included in the support material, so it can be used to learn the game from scratch.

As with most card-playing programs, the graphics and sound are nothing to



KING CRIBBAGE (HAYDEN)

write home about. In fact, the only sound is the shuffling and laying out of cards, which sounds like a cartoon miscreant making a getaway on foot. Except for the size of the cards, the graphics replicate exactly what you'd see if you were to play the non-electronic version. The board lies in the middle of the screen, with the computer's cards above it and the player's hand below.

There are two options for game-play: regular cribbage and "Muggins," and 15 levels of difficulty. The only difference in the two versions is that in regular play the computer tallies and pegs both hands, while in Muggins, the player counts his own hand. It's not called Muggins for nothing; one of the rules of the game is that any points a player misses in his or her own hand can be claimed by the opponent. Needless to say, the computer is not going to be the one miscounting. When the computer keeps track of the score, it announces the player's total and then offers the option of seeing a point breakdown. It always shows a full breakdown of its own hand. The score is pegged in the traditional way, and is also shown numerically in the middle of the board. This is handy, since it takes two complete laps of the board to reach game at 121 points, and 'reading' the pegs is a problem if you're not used to it.

King Cribbage is not going to make any pulses leap or adrenalin pump, but there's more than enough strategy involved to make it challenging and entertaining. It's a flawless re-creation of a traditional game. And there's always a special satisfaction at beating the computer at games which require some mental effort. And if you're really feeling smug about it, try playing Muggins!

(Louise Kohl)

RANCH

Designed by Joyce Hakansson Associates
Spinnaker/C-64/Cartridge

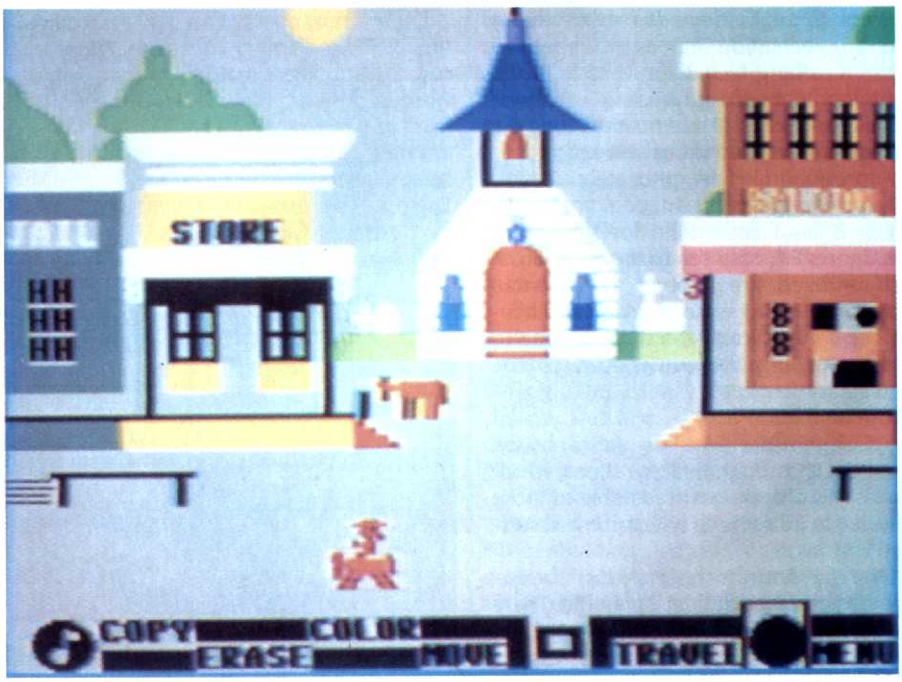
Saddle up Old Paint; it's time to ride the range! Armchair dudes visit the Wild West in **Ranch**, an entertainment for youngsters ages 5-10. Computerists construct bucolic scenes using a building bank of pre-drawn people, objects, livestock, and assorted western-style flora and fauna.

The entire operation is joystick controlled by cursor and on-screen menu. Character screens contain the building blocks necessary to create complex western pictures. The joystick jockey moves the cursor to the objects to be used, pushes the button to pick them up, and carries them back to a building screen to construct the painting. Objects can be moved around the picture from spot to spot, and everything can be copied as many times as desired, just like rubber stamping them. Then everything including the backgrounds can be colored to suit the taste of the artist.

The animals are a lively bunch; most are animated. The cows bob their heads as they munch grass, vehicles' wheels turn, jackrabbits hop, and horses trot. The screen vibrates with motion. To add complexity to the action, each animated object can be frozen in any of its positions and reactivated at will, so it's possible to orchestrate (for example) a flock of chickens clucking and chomping independently of each other, rather than in a fowl synchronized ballet.

Any one item can travel across the screen, juicing up scenes of the iron horse crossing the prairie, Farmer Jones tooling down the road in his Model T, or cowboys herding cattle.

Ranch is very easy to use. The youngest computerists may need parental help to understand the cursor-driven menu, but once they learn the procedure, it's a snap to construct simple pictures. It does take time to construct a complicated scene us-



RANCH (SPINNAKER)

ing the bits and pieces of buildings, roadways, plants and trees, animals and people. But the creation can be saved to disc to work on over and over again. Best of all, there's no limit to the number of pictures that can be formed using these component parts, so that kids (and their parents) can use the program repeatedly without becoming bored.

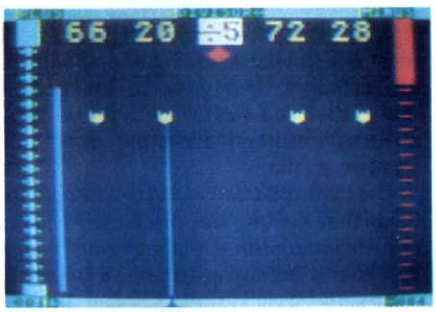
(Joyce Worley)

PLAYING IT SMART

DIVEX

Designed by R.W. Scorupski
Avalon Hill/Atari/
32K disk (BASIC is required)

The gamer mans a laser cannon and battles invading forces in this shoot-'em-up arithmetic drill. It's just the thing for action arcaders who need a little practice on multiplication and division. The shooter must destroy all alien rockets representing



DIVEX (AVALON HILL)

wrong totals, while allowing rockets with correct answers to land. It's a merry one-gamer war against mathematical errors requiring a steady firing hand and quick reflexes, plus a good working knowledge of the multiplication tables.

The joystick moves the player's cannon back and forth across the bottom of the screen. At the top of the screen is a multiplication problem, along with four possible answers. Below each of these answers is a rocket ship which swiftly descends toward the bottom of the screen.

There are other aliens in the skies as well. Drones flit across the screen, then try to land. If one does make it to the bottom, it reduces the distance the cannon can fire so the alien rockets get further down the screen before the gamer can start to blast them away. There's also Divex, a red sparkbug who'll try to eat the cannon's energy supply. The cannoneer has to shoot a blast of bug spray at this creature to chase it away.

The second part of the program helps gamers get a grasp on division, by highlighting a divisor at the top of the screen. In this section, the four rockets represent four totals, and the gamer has to shoot the ones that are not evenly divisible by the highlighted number, while allowing the divisible rockets to land.

Divex is demanding enough to hold the interest of arcade-style gamers, while drilling mathmetical skills. It probably will never be easy to get Junior to practice his arithmetic lessons, but this game may help. It won't take the place of entertainment programs, since it has such a strong dose of educational tonic included in its makeup, and its rather plain graphics don't even begin to compare with true arcade-style games. But it's about as painless a way to practice school skills as anyone has ever devised. Kids will know the multiplication tables better after playing **Divex**, and they'll have had fun learning.

(Joyce Worley)

SPELLING, GRADES 2-8

Designed by Dr. Ruel A. Allred, ED.D.
American Educational Computer/
Atari/48K Disk (BASIC cartridge required)

American Educational Computer boasts that its six spelling programs cover 4,233 words, or 98% of the words most commonly used in the written vocabulary. Each program is stuffed with the words appropriate for its grade level, and they all use exactly the same presentation and format to make learning easy. They're based on curriculums used in most schools, and can be further tailored by adding your own words to the lessons, to exactly duplicate the child's current studies. Then special study guides, drills, tests and learning games help the student memorize the words.

All the programs work alike. First the student enters his/her name, reads the on-screen instructions, then gets a new word list which can be looked at or kept hidden as preferred. Next there's a spelling pretest. The word flashes at the top of the screen, too quickly for anyone to actually study it, then a sentence appears with the spelling words omitted. The student gets a chance to type the word that belongs in the space. The computer then displays the proper spelling alongside the student's version, and asks if it was spelled correctly, for the student to judge him/herself. Any words missed appear on study screens for the child to read over and memorize, and at the same time get entered into a word study bank to be represented to the learner.

The game activities are really just drills and flash cards. "Proof/Spell" writes a sentence on screen, then asks the student to correct any misspelled words therein. "Alphabetizing" is just that; students must put the study words in alphabetical order. "Be the Teacher" presents four words and the student has to determine if any are erroneous. "Flashcards" displays a word for the student to study, then erases it while the learner tries to type it correctly.

There's a section of the program especially for the parent or teacher. Up to three students can be listed, and the computer maintains records on each one's progress. This section manages all the data, permits input of new student records and new words to study.

The six programs do provide excellent drills and tests, and adapt themselves to school lessons and assignment, and can be a real help to a youngster. The words are clearly and legibly presented; the on-screen instructions are simple and concise, and the lessons are kept short so they aren't too tedious. On the other hand, they shouldn't be confused with entertainment; this is all very serious stuff. The "games" included on the programs are not really designed for fun. These are terribly practical programs, good for serious study (or even classroom use), that are guaranteed to make a better speller out of any kid who uses any of them.

(Joyce Worley)

ANTONYM ANTICS

Designed by Perry Edwards
Muse Software/Apple/48K Disk

Students learn to recognize opposites using **Antonym Antics,** a simple, yet effective, learning game for kids ages 6-13. Words are presented to match against five possible answers. The child chooses the one that best expresses the opposite concept, then the computer draws charming cartoons to illustrate the two words.

The words are simple pairings, like up-down, hot-cold, inside-outside. Each set is illustrated by two drawings, such as a child on top and at the bottom of a slide, or Lester the dragon in tame and wild moods. They're clever and mildly humorous, to keep smiles on the faces of young learners while they complete the matching game. After the first 13 word pairings the concepts get just a little harder, like present-absent, well-sick, running-walking. After completing about a dozen of these more difficult pairs, the computer starts doubling up on the words and the learner has to match two sets to make cartoons appear. Then the illustrations combine the two pairs of words into double pictures, like "I am clean inside the house" and "I am dirty

ANTONYM ANTICS (MUSE)

outside the house," with pictures of a tidy child indoors, opposite a cartoon of a scruffy kid playing in the yard. The learner can toggle back and forth between the two cartoons at will, until it's time to go on to the next pair of opposites.

After the compu-learner has gone through three dozen words, the computer tallies the score. Then a review presents two lists of antonyms for the child to match up, to reinforce and test how well the lessons were learned.

The play-mechanic involves moving a box around the correct word, so this game is a snap for any gamer who can read these easy antonyms, or for pre-readers playing with parental help. The cartoons are well-drawn, though not quite state-of-the-art; a few animated scenes would have enhanced them a lot. But they are witty and amusing enough to make the lessons more fun than work, making *Antonym Antics* a happy learning experience.

(Joyce Worley)

ARTICLES OF WAR

BALTIC 1985

Designed by Roger Keating
Strategic Simulations, 1984/
Apple II/48K Disk/$34.95

It would be a long road, the General thought as he stared at the map, and there would be no guarantee of a welcoming committee at the other end. But some roads have to be travelled, no matter what the toll.

The tactical map of Germany was crossed by a gridwork of lines, studded with symbols and brightly shining in the middle of the otherwise darkened room. Toward the lower right quadrant of the map a cluster of square symbols stood mutely as a cartographer's testimony to the plight of thousands of Berlin-based, NATO troops waiting for the advancing Soviets, halted temporarily at the Rhine, to bring in enough reserves to either overpower the Berlin defense or make further resistance strategically useless and so bring about a tactical surrender.

But in the early morning hours the first paradrops had been made, the first key objectives on the long road to Berlin seized. The villages and roads so held, on the General's map, seemed like islands in a vast sea — impossible to link into any sort of long-defendable perimeter but that wasn't why they had been captured.

They were the first temporary walls in a long corridor down which other NATO troops would drive. The objective: link up with the existing troop strength in Berlin in order to hold out against the Soviet assault. But, of course, much of the Soviet strength would be exerted against the achieving of that goal.

When the end of the corridor was reached, the General reflected as he stood and adjusted his battle dress, it would be interesting to see who was happier to see whom — the rescuers or the rescued.

Part of SSI's "When Superpowers Collide" series of computer wargames, **Baltic 1985** picks up the action following **Germany 1985** (in which the first Soviet Offensive was halted at the Rhine) and **RDF 1985** in which the United States' Rapid Deployment Force had moved to protect the Persian Gulf. This new scenario contains some of the best possibilities for tactical action and strategic thought as yet seen in this outstanding series.

Baltic 1985 follows many of the same rules and conventions found in all games based on the *Germany 1985* rules, yet it plays in a manner very much its own.

The scale of the 39 by 28 hex-gridded map is somewhat larger than in the earlier games. Each hex is now three miles across. Because of this, weapon ranges, sighting distances and unit movements must be smaller in this game than in its predecessors. This gives to the game a more strategic flavor in that the areas covered onscreen are more difficult to traverse militarily.

The tactical screen is one of the best play fields that Keating has produced. The terrain, including forests, lakes, rivers, rough, towns and urban hexes are all sharp and clear and easily distinguishable. With or without the optional on-screen hex-grid the eye can easily determine the results of various movements.

Because the map is so large, only a portion of it is viewable at a time. The map is divided into 12 sectors, each identified by the number 1 through 9 or the letters A-C.

This sectioning of the large map accomplishes a number of gaming goals besides simply allowing for a bigger playfield. Rapid movement from screen to screen is possible by, for example, entering S3 to view map screen 3. Even better, it is not always absolutely needed to detail the step-by-step movement route of every unit it should take. Instead, you can issue "orders" to a unit to move by the shortest route possible toward the center of one of the map sectors. More on orders in a moment.

As in the other titles in this series, the troops are represented by small but easily recognized icons denoting things like tank, armored infantry, artillery, and engineer battalions as well as special airborne, air cav and stacking symbols. To this critic's eye, the added fillip of identifiable silhouettes makes for a better-looking playfield than the square, and rather dull military-style symbols now employed by many computer wargame programmers. It seems obvious that if the computer is capable—and it is — of using symbols with

more life and verve than those in a printed book, then those are the symbols to use.

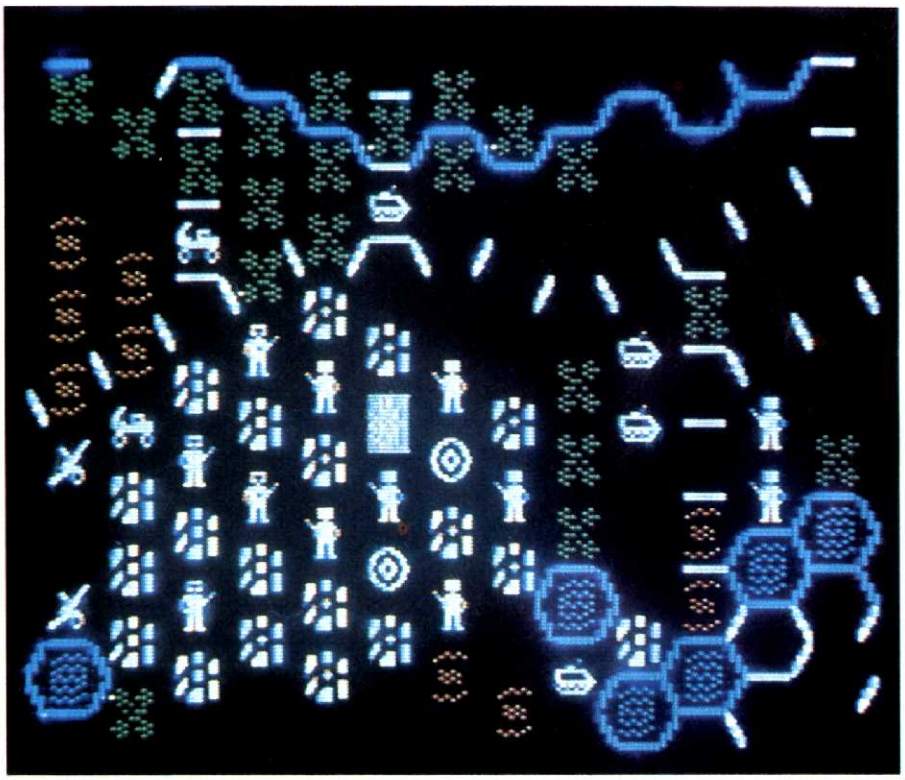
Moving the various battalions is easy thanks to many on-screen assists from the computer, which tracks such things as modes. For example, a tank battalion on the road moves faster (more hexes per turn) in transportation mode than in attack or fire mode. And changing modes costs a certain number of movement points. During a boardgame, players often make unintentional mistakes and move counters greater or shorter distances than they are entitled to. The computer first highlights the modes to which the piece can change, along with the point-cost of such mode changing and then won't allow improper movement. So although many of the movement rules are complex, the computer itself becomes, if not a guide, then at least a sympathetic referee.

Combat is decided through a complex set of interrelated variables. The program does the calculating but players must understand them to have any chance at all in the game. The rulebook details these variables, but there are so many that, in the manner of a real general, the players must develop a "feel" for the capabilities of their troops.

A typical combat resolution depends on such things as the type and mode of the engaged units as well as the amount of artillery fire brought to bear on the defender, the terrain being defended the number of units supporting each side of the combat, how far away each side's headquarters unit is, the number of units that can see each side of the combat. And, of course, there are an array of specialized combat rules that cover such things as river hexes.

If you want to win *Baltic 1985* against a coldly calculating computer, a calculator is almost a necessity. Of course, you don't have to calculate each combat to its exact value, but it certainly does help to pierce the fog of war. A four-function calculator is all that is really needed in a computer wargamer's private arsenal, although inexpensive programmables make such battlefield figuring even faster.

The ability to cut orders for the troops, as mentioned previously, is a truly outstanding feature of this game-system. When a unit is in its movement phase, the player types "O" for Order and can then tell the unit to do a number of things automatically. The strategic movement option directs the unit toward one sector rather than marching it hex by hex. The Delay order permits friendly troops to fire on enemies *during the enemy's movement*, an electronic "fire when you see the whites of their eyes." A unit eligible to receive this order fires when an enemy enters its spotting range. The Village order lets the unit capture as many village or objective hexes as it can. The Fire order automatically picks the best target in range. Other orders such as "Move and Fire," and "Move and attack" add to the feeling that the on-screen silhouettes are more than just static game pieces, they become almost representative of actual troops that follow orders and report back.



BALTIC 1985 (SSI)

Other rules accurately reflect the theory of the modern, conventional battlefield. Divisional Integrity, for example, is a complex thing to understand, but this game makes it easy to apply. With a touch of a control key, units that belong to the same division begin to blink green while their headquarters unit blinks violet. In this manner it is far less of a chore to track how far a HQ is from a combat. And, units that have had to retreat may reorganize; the speed of their reorganization is governed by how far they are from HQ.

BALTIC 1985 picks up the action following Germany 1985

Units may be hidden so that they can only tracked by other units which sight them or notice activity. This rule can lead to some very surprising ambushes for the unwary general!

Tactical air superiority is also decided each turn. The general decides how many planes can be allocated to the battlefield and how many go to air-to-air and bombing missions. Often a crisis turns on the wise husbanding of the limited air power.

The computer opponent plays a canny game as either the Russian or NATO force. This allows the gamer to really study both sides of this hopefully never-to-be-really-fought scenario.

With all of these going for it, there's still one complaint about *Baltic 1985*. It's one which applies to many of Strategic Simulations' other games, too. The paper reference map, while nicely detailing the screen sectorized map on one handy card, fails to label village and city names, as well as rivers, forests and other such features. I think that a wargamer would identify with the action more fully if it was easier to determine just where the action was taking place. As I have recommended before, the best thing to do is to go to a library or otherwise obtain a detailed map of the area the game is simulating. Then, with an India-ink pen you can carefully label your on-paper map with these kind of labels.

But ambiance aside, *Baltic 1985* is a worthy addition to the "When Superpowers Collide" series. The fourth game in this series should be out soon to complete the best set of "themed" games that the computer wargamer can buy.

Baltic 1985, as well as the other games in this series, is available in editions for the Commodore 64 and the Apple II.

(Neil Shapiro)

STRATEGY SESSION

Games Of Peace, Games Of War

By FRANK TETRO JR.

SUMMER GAMES

Epyx/Atari, C-64/Disk

In **Summer Games,** up to eight players get the chance to compete in eight key Olympic events in an attempt to attain the highest honor: the coveted gold medal. Each of the events is a game within itself, so we'll discuss the strategy behind each sport separately.

POLE VAULT:

The pole vault may very well be the hardest event. The player must remember four specific joystick maneuvers to clear the bar with room to spare.

The key to a successful vault lies in a good, solid plant and a strong kickup. Once this is achieved, releasing the pole is easy. In order to plant the pole, pull the stick back just as the tip of the pole hits the middle of the screen. This may seem too early, but the athlete takes some time to swing the pole all the way down.

Kicking up is the tricky part. Vaulters should kick up just when their man is at a 40° angle. The best way to kick up is to push forward, not once, but twice in *rapid* succession. This guarantees the kickup, and will make your vaults more successful. Don't forget to let go when the pole straightens out, though, or you'll still be holding the pole when your athlete belly-flops on the mat!

DIVING:

In diving, form is critical. The key is to land in an extended position with your head going in first, and your body following in a smooth vertical form.

The more rotations you do, the higher your rating — *if* you successfully complete the dive. The object is to start slow, and work your way up. Keep your eye on the diver's head, and when he's three quarters of the way down, push forward when his head is closest to the water. This will straighten him out immediately and assure a smooth dive. Although it may look impossible to track his head in the fastest rotation, keep practicing, it gets easier.

100-METER RELAY:

This race requires strategy and pacing. Runners should learn the precise place to begin a sprint that will use up all their energy just as the runner hits his relay partner. This spot is right where the crowd holds up the "U.S.A." sign. The second you see this sign, begin to sprint, and don't stop until you get to your next runner. If you do this right, you should never have to coast. The only time this strategy fails is on the last leg, because the last runner has a bit more energy, so you can begin your sprint a little earlier.

To pass the baton simply push the button when the two runners are closest together. When the placing is right, your relayer has the baton hand forward while the next runner has his receiving hand back.

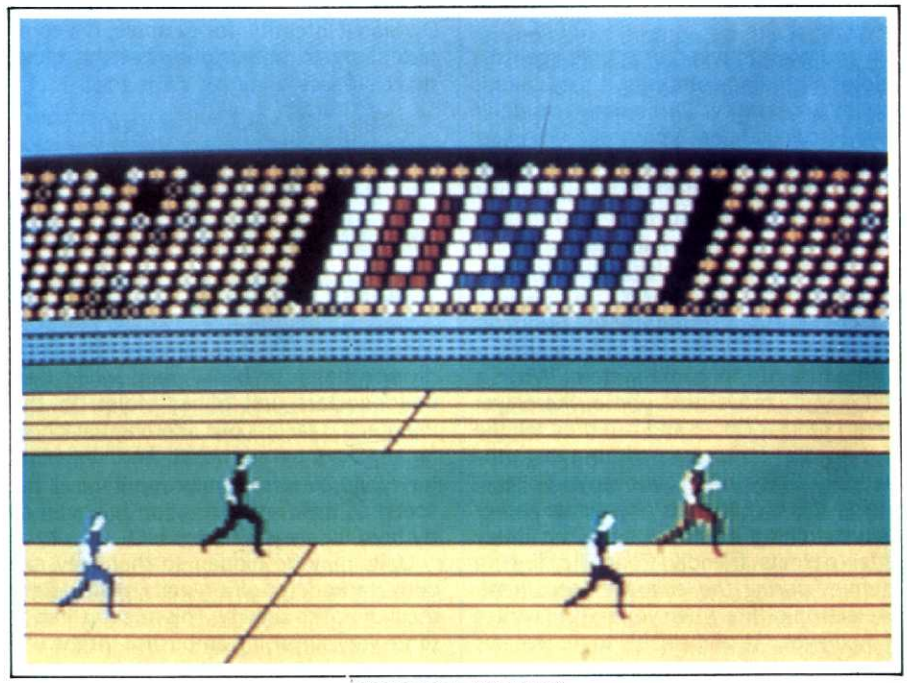
100-METER DASH:

Not much to be said here, strategy-wise. Just try not to break too many sticks while jiggling them frantically.

GYMNASTICS:

This event can be simple or difficult, depending on the jump you are attempting.

For maximum points: always jump on the very tip of the springboard; always perform the 180° body twist by holding the stick right or left while leaving the springboard; and always push the button when the gymnast is in a vertical position on the horse for a powerful push-off. Once in the air, push forward for fast rotation. If the gymnast spins quickly, the push-off was done



SUMMER GAMES (EPYX)

right, and can do 2 to 3 somersaults! If she moves slow, one is all she can complete, so *don't* push it. Pull back to land when her feet are closest to that mat, and if she leans left, pull the stick right to correct her (and vice-versa).

FREESTYLE RELAY AND 100-METER RACE:

In these two events, maintaining a rhythm is crucial. Aside from getting a good start and flip, one *must* excel in the strokes.

For maximum pull, push the button as the man's hand hits the water in front of him and hold it in for about a second as he pushes through the water. Then let go for a second, and push as he enters again, forming a rhythm of one second on, one off, one on, etc.

Initiate the flip turn when the man is just under one body-length from the edge. This will get you maximum push-off and can even put a second-placer ahead of his rival.

In the relay remember not to false start. It costs time!

SKEET SHOOT:

The main strategy behind skeet shooting is to memorize the pattern of targets. Know when the double skeets are coming, and be ready for them. If you know where they'll be, it becomes easier to pick them off.

The important thing to remember is *not* to lead the targets. Contrary to popular space game theory, you must put the site on the target to hit it. And don't forget to compensate for gravity pulling your gunsight down. Going to the middle of the screen *immediately* improves your chances of a successful hit.

Just remember, when competing in an Olympic event, you can hear the coach give you tips all day, but there's no substitute for good hard practice!

BEACHHEAD

Access Software/Atari, C-64/Disk

Beachhead pits you against the enemy. Your mission: penetrate their mine fields, defeat their air and sea assaults, make your way to land, and defeat their main base. Doesn't sound easy? *It isn't!* Each of these phases is a game in itself, so we'll discuss each game's strategies separately.

MINEFIELD PENETRATION:

When in this phase, avoid planted mines, and torpedoes and make your way to the other side.

The best strategy behind this phase is the old rule "yield the right of way," and in this game the torpedoes have the right of way. In other words, don't try to outrun the torpedoes. When one is launched, just slow down and let it go by. Then, speed up and make a beeline for the other end. If you are at the lowest speed and still heading for a collision with a torpedo, turn the ship all the way left and let the missile pass.

SEA-TO-AIR PHASE:

The object of this phase is to aim your guns and shoot down attacking planes before they sink the fleet.

The best way to defeat planes is to avoid being a "chaser." That is, don't try to follow the planes with gunfire, hoping to catch them. Instead, set the sights at a certain height and move them left and right, then let the planes fly up into your sight. This strategy will work well unless you set the height too high (this allows the planes to get too close, and damage the fleet each time).

Instead, keep your sight in the lower half of the screen.

NAVAL WAR PHASE:

Now it's *your* turn to blast at those darned boats! The key here is to shoot, then *wait* to get a reading before launching another shot. Aim at one ship at a time, and try to concentrate on the ship presently firing at you. Remember, each push of the stick is equivalent to 100 meters either way, so if it says 900 meters short, simply jab the stick back 9 times quickly and fire away! Once you hit your target, move on to the next one firing at you.

TANK BATTLE:

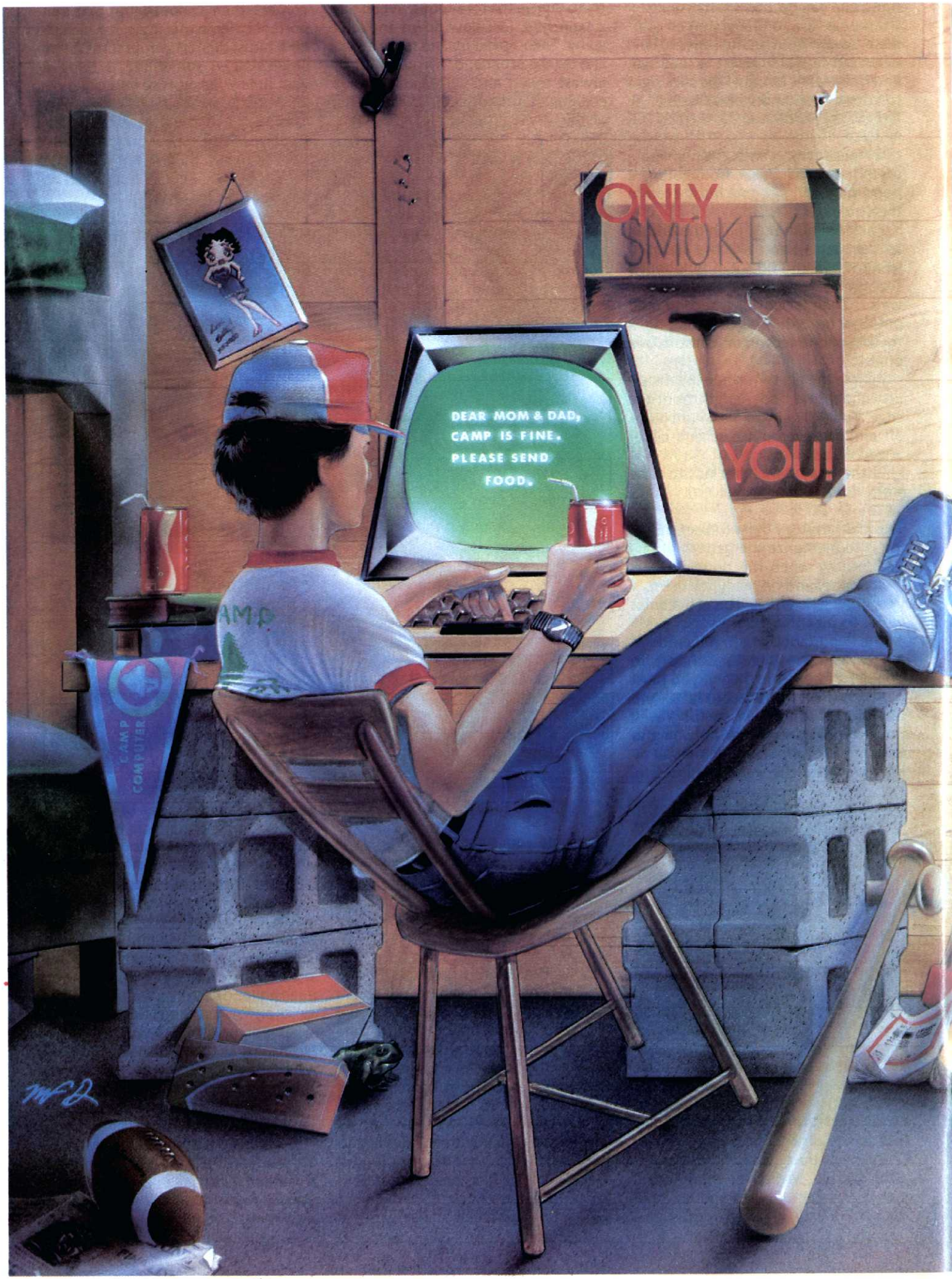
The tank phase is a navigational contest, then a shoot-'em-up. It's important to learn the angle at which the tank turns, then base your turns on this angle. When something is firing at you, time your shots so you can move in, shoot, and get out while the enemy is reloading. If the assailant is not an obstacle in the way of progress, don't even bother with him. But make sure the *entire* tank clears a bridge or tunnel, because contact with *any* part of the tank base, top or even turret results in instant destruction — and a one-way trip back to the beginning.

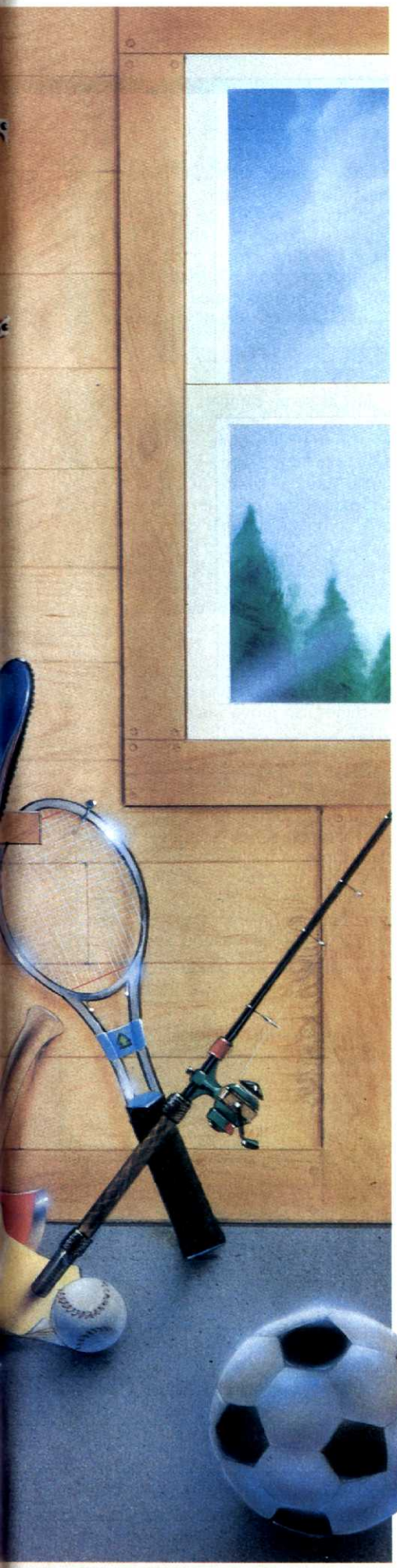
CUSTER'S LAST STAND:

When (and if) you reach the base of the hill, your mission is to blow away the main cannon. This is done by shooting out a certain amount of ports in the hill (the number depends on the skill level). Meanwhile, the main cannon is aimed right at you! Don't worry, since there's nothing you can do except blow out as many ports as possible before he does you in. I've never seen anyone knock out all the required ports on the first pass, so don't feel bad when you hear "BOOM!" Just hop in the next tank (hopefully, you have another) and repenetrate the enemy grounds. Keep doing this until you either run out of tanks or destroy the main cannon.

Beachhead is a difficult game, not to be mastered in a day. So, don't get frustrated if you fall a few times to the enemy. Remember, within a few days, victory shall be yours!

BEACHHEAD (ACCESS)


ONLY
SMOKEY
YOU!
DEAR MOM & DAD,
CAMP IS FINE.
PLEASE SEND
FOOD.
CAMP
COMPUTER



Camps for Computerists

Here's What Every Parent — And Every Compukid — Needs To Know about Camps

By STEPHANIE FERM

Parents have sent their kids off to camp since the advent of hot, sweltering cities. But in recent years, more and more computers have been packed in with the name-tagged underwear, pre-addressed envelopes, and sleeping bags.

Only a few short years ago, prospective campers had to scout camps out, fighting limited enrollment and astronomical prices. Today, there's a computer camp for everyone, and a price range to fit even the tightest budget.

With computer camps in over 42 states and eight countries, it's no wonder that there are so many different options available. There are computer camps for beginners and camps for advanced students; for the handicapped; there are even a few camps just for teachers. There are family camps, adult camps, day camps, residential camps, computer resorts and cruises — and even one or two that are free! But the more options that open up, the harder it is to choose a camp that fits your individual needs.

COMPUTER COMMUTERS

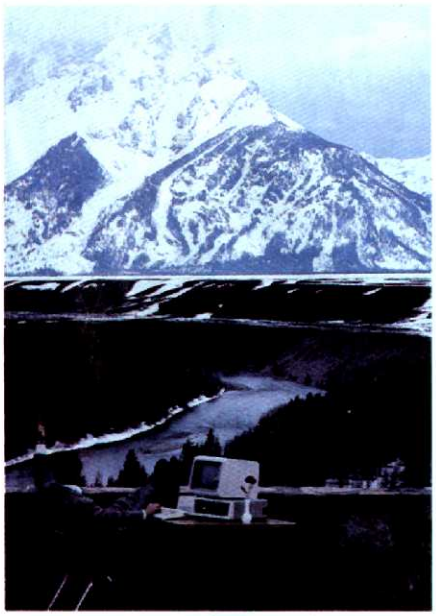
Before parents start looking at what computer camps offer, it's important to first understand the child's needs and wants (which incidentally, are not always the same). Make sure that your child *wants* to go to computer camp. Too often, peer and parental pressure provide these camps with at least one miserable camper each summer. Don't make that child yours. Ask your child why he or she wants to go to computer camp, and what he or she hopes to achieve to get a better idea of the direction to head in — and whether computer camping is the right choice at all.

Does the child want to sleep away from home? Although many kids show an ardent interest in computers, they may not be comfortable learning, eating and sleeping in a new environment. Younger and first-year campers adjust more easily to the daily routine of camp when they go home to familiar surroundings at night. Remember — day camps are an excellent option.

Computer Camp, Monona, Iowa.

Approximately one third of all residential computer camps offer low-cost day programs to local residents. The children join in the same program as the sleepaway campers, except that they return to their homes in the evenings. A majority of colleges and universities also offer computer day camp programs for children. One of the advantages of a college is the campus itself, which usually has better-than-average recreation facilities and plenty of equipment to learn on. Camps such as Timbertech, CompuCamp, Retupmoc,

COMPUTER CAMPS



Jackson Hole Personal Computer Resort in Wyoming.

CompuQuest, KidComp, CHIPS, and Virginia Tech Computer Camp all run their residential programs from college campuses.

ALL WORK AND NO PLAY. . .

Beware! Many of these so-called "day camps" are nothing more than summer schools. Those that are based on college or universities campuses are particularly suspect. A few examples are: the Computer FUN-damentals Camp (Hollins College, VA), and the Math Gym. These "camps" provide little or no recreational activities. While they're certainly qualified to run a schooling program, the accuracy of the term "computer camp" is questionable in describing their summer computer courses for children. Make sure that the day camp you send your child to has planned recreational periods and/or plenty of free play time, especially for younger kids.

BEDSHEETS AND SPREADSHEETS

There are two major disadvantages of non-residential camping. The first is the loss of individual computer time, which is usually available in the evenings, after day students have already gone home. The second is missing those special nighttime activities such as campouts, plays, sports and movies, which bring campers together and really make summers memorable.

For the total camping experience, there is nothing like a sleepaway camp. Here, children share their living and learning quarters while they receive three to eight hours of computer instruction per day. Some camp programs are supplemented by field trips to large computer companies, and lectures by industry leaders. In a sleepaway, not only do children learn how to compute together, they also learn how to interact with others with different backgrounds and interests.

Each child care facility has different philosophies about what is best for its clients, and computer camps are no exception. The Legacy Camp, in Lynchburg Virginia, offers a unique computer program based on the belief that computers should be used as a method for international communication and world peace. Children and professors from abroad come to Legacy to be exposed to different ethnic and cultural backgrounds and to study the global significance of computers for personal, business and international use. Most camps are not nearly so futuristic, but they are equally concerned with providing a special type of environment for their campers.

The majority of computer camps combine recreational activities with hands-on computer time. National Computer Camps offers five hours of computer instruction and five hours of optional, recreation or computer time. Dr. Michael Zabinski, director of National Computer Camps, believes that children should be allowed to pursue their interest in computers without being interrupted to swim, hike or camp out, if they prefer not to. Recreational facilities are available, though not encouraged, and children are free to choose how to spend their optional periods.

Other camps, such as Old Acres (Midwest Computer Camp, offer structured recreational periods to provide a well-balanced program for campers. Old Acres' daily schedule allows each camper 2½ hours of free time, 6½ hours of computer time, 1½ hours of meal time, and five hours of planned recreational time per day.

GENERAL CAMPS: JUST A NIBBLE

Just as some campers are not ready to live away from home, others are not ready to sit in front of a computer for six to eight hours at a time. There are over 9,000 traditional summer camps in the U.S. today, and many offer computer programs as part of a complete summer curriculum. Computer time usually runs between one and four hours per day. These camps are particularly beneficial to first-year campers who may want to explore other activities as well as computers. For the avid enthusiast, however, the lack of sophisticated programming (such as graphics and robotics) and the limited individual access to the machines can prove frustrating.

FAMILY AND ADULT CAMPS: A BIGGER BYTE

Although some parents enjoy the freedom of sending their children to residential camps, others feel that the summer is the ideal time to spend with the family. To accommodate this ever-growing population of families, many computer camps are setting up special one and two-week ses-

Campers share group activity at Ole Miss Computer Camp.

sions to include Mom, Dad, and all the kids.

Family camps have many advantages. They afford the family a shared learning experience while having fun. Family camps offer a wide range of optional activities such as tennis, swimming, picnicking and horseback riding during those free periods away from the computer.

These camps are perfect for the child who's not ready to be separated from his parents for the whole summer. Instead of keeping your kids home, why not join the fun? Non-computing parents and siblings can still attend computer camp to enjoy the various recreational facilities and scenery that these camps usually provide. Family Computer Camp, located at Clarkson College in Potsdam, N.Y. charges non-participating members a mere $25.00 to attend. It also offers sizable discounts for two or more campers from the same family.

You don't need to have kids to go to computer camp. Teachers and educational administrators can go to one of the several special summer sessions. The Computer Literacy Workshop for teachers, in Hattiesburg, Mississippi, offers inexpensive one-week seminars worth three semester hours of academic credit. Teachers learn how to choose the appropriate computers for a school and how to use the computers to enhance a child's education.

Adult camps usually appeal to the working professional for whom computer literacy is a valuable career asset. Sessions include instruction in how to choose a personal computer, data and word processing, electronic filing, and financial management, with a lot of fun mixed in. These camps tend to be posh and expensive, although a few are simply back to BASICs. Computers Simplified in Oakland, CA includes afternoon breaks with French wine and Brie. Its sister camp in the Napa Valley provides wine-tasting and gourmet meals as part of its computer curriculum—how's *that* for roughing it?

Those looking for a camp with an international flavor and a minimum of pressure, might opt for Club Mediterranee in Mexico, the Dominican Republic, the Bahamas, or the French Carribean. Classes are informal and are taught in several different languages.

For the ultimate experience in computer vacations, why not take an ocean cruise? Computers for the Innocent at Sea is a twelve-day luxury cruise through the inner passage to Alaska that combines sixteen hours of BASIC computer programming with an exciting oceanic adventure. For warmer weather, take the Princess Computer Cruise to Acapulco or the American Hawaii Cruise to the Hawaiian Islands. On board these ocean liners, you will not only receive instruction from professionals and a relaxing vacation, you might be eligible for a tax deduction! (Treasury Regulation 1.162-5 allows for an income tax deduction for educational expenses incurred on board American ships. So long as the participant is improving skills needed for employment and attends the required seminars for three hours daily, he can take up to $2000 as a tax deduction. For more information, consult individual cruise lines and the IRS about code section 274(H).)

Problem-solving session at National Computer Camp, Simsbury, CN.

CAMPING ON A SHOESTRING

I would be remiss at this time not to burst your bubble and tell you how much all this good stuff is going to cost you. The average residential camp fee is about $385 per week, with some camps as inexpensive as $175 and others as high as $600. Don't be discouraged, because there are ways of offsetting the cost of computer camps and letting purse strings breathe easier.

One way is to attend one of the many camps funded by philanthropic or religious organizations. These camps receive private and public donations and offer summer camp at a lower cost to thousands of children nationwide. Since they are non-profit, full and partial scholarships, financial aid and scaled payments are available to children who qualify. Contact your local chapters of the YMCA, Girl Scouts, 4H, Boy Scouts, the Jewish Federation and assorted church organizations for more information on how to apply.

For older, more experienced campers, searching for a Counselor-In-Training program may be a terrific solution. CIT's usually pay half to one quarter of the total tuition by helping instruct beginners and sharing in a variety of staff responsibilities. In return, campers get an opportunity to experiment still more and have some "on the job" training.

IN THE BEGINNING

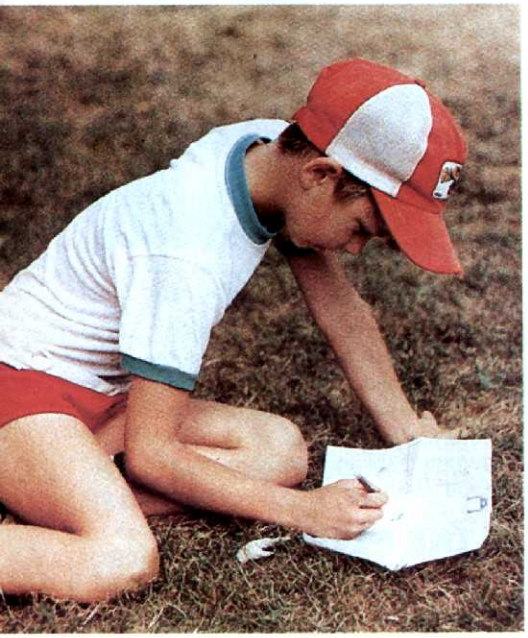
There are three ways to begin the search. The first is to use one of the computer camp guidebooks available to you. Here are a few to start with:

The Complete Guide to Computer Camps and Workshops by Michael Benton

Non-electronic fun at Midwest Computer Camp.

COMPUTER CAMPS

(Bobbs-Merrill Pub Co., 1984, $10.95) is a wonderful, fact-filled book. It features a thorough camp listing which includes camp contacts, camper and staff requirements, camp curriculum, camp tuition and the camp's basic philosophy as stated by the director. Anyone interested in computer camps should read this book. Alfred Publishing Co. puts out *The Computer Camp Handbook* by Joseph Cellini ($2.95).



Midwest Computer Camper deep in thought.

It's camp listings are accurate, but not thorough. However, it does give insight to a variety of price ranges, curriculum and ratios — and some sound advice, too!

Another way to start the hunt is to check the Sunday magazine section in major national newspapers and any number of computer magazines. Finally, try consulting the American Camping Association for computer camps in your area. The ACA does have a Select-A-Camp referral service for a nominal fee, but you can do this research as well, if not better, by yourself.

COMPUTER CAMP CHECKLIST

This 10-point checklist outlines most of the qualifications and information parents need to evaluate computer camps.

Staff Requirements: In many ways, the staff is the key to any successful camping experience. Counselors become teacher/nurse/parent/friend and older sibling all rolled into one, so the quality of staff and camp hiring procedures are crucial. Computer instructors should be elementary and junior high scholl teachers, or other personnel trained in teaching *children.* Graduate students and professors may have the knowledge but not the experience necessary for the job. Similarly, college whiz kids can be good examples, but useless to the camper population if they can't teach.

Bunk or dormitory staff should be over eighteen and have one year of college behind them. Similarly, specialists should be trained in whatever activity they teach. Both should be warm, experienced counselors who give children the individual time and encouragement they need.

Camper/Staff, Camper/Computer Ratio: The camper/staff ratio tells you the level of adult supervision at any given time. Anything higher than a 10:1 rato suggests an inadequate amount of supervision for your child and you should be wary.

The camper/computer ratio should be no more than 2:1. Camps may argue that children work better alone or in pairs, but all well-run camps agree on maximum 2:1 rato for efficient learning.

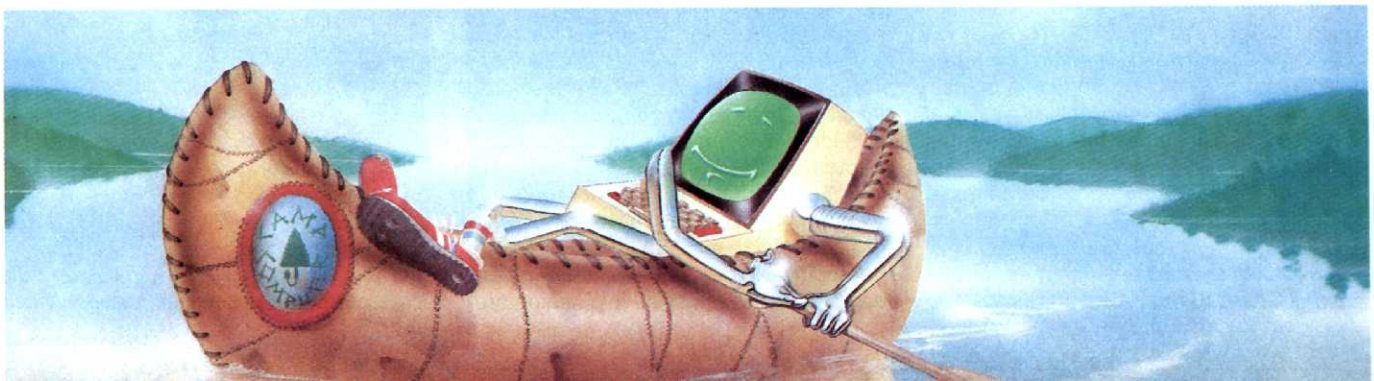
Living Facilities: Camps based on campuses use dormitories to house computer campers. Each dormitory usually places two children to a room and all facilities tend to be in good to excellent condition. In camps that run on their own property, children usually live in bunks or cabins. Living quarters run the gamut from modern to primitive, and parents must determine whether they are merely rustic or in fact, rundown. Ask about the number of children to a bunk, number of staff to a bunk, actual size, and bathroom facilities. Ask to see pictures of the cabins, inside and out. (They are usually available upon request). This should provide a good idea as to whether your child will be comfortable in that particular bunk setting.

Health and Safety Conditions: Accreditation by the American Camping Association has usually meant a green light to parents for a camp's high standards and safe conditions. However, less than 30 computer camps are accredited at this time. This does not imply that most of these camps do not have excellent facilities and observe all quality and inspection codes. It may mean that these camps choose not to become affiliated with the ACA or are pending accreditation.

Camp Sessions: Computer camps tend to run on one-, two- and four-week sessions. Very often parents are told that plenty of space is available only to find out at the last minute that the session their child requested is filled up. Decide on a session as soon as possible and register no later than April for preferred placement.

Computer Curriculum: The two beginner languages in computer camps are unanimously LOGO or BASIC. For more experienced campers PASCAL, C (duck), LISP, FORTRAN, APL COBOL and assembly language are all currently offered, but only at selected camps. Most camps offer a beginner class introducing computers and their programming capabilities. Several camps offer a varied course load with classes in graphics and sound, computer games, robotics, computer careers and word processing. Find a camp that offers what your child wants to learn, and can grow as the child's knowledge and needs do.

Other Activities: As discussed earlier, camps should offer some recreational activity each day. But find out whether these activities are included in the total tuition price. Horseback riding, field trips and waterskiing are just three activities that often warrant an additional charge that you might not want to pay.



"I designed a game I'd want to play so you'd want to play it."

—Mark Cerny, designer/programmer

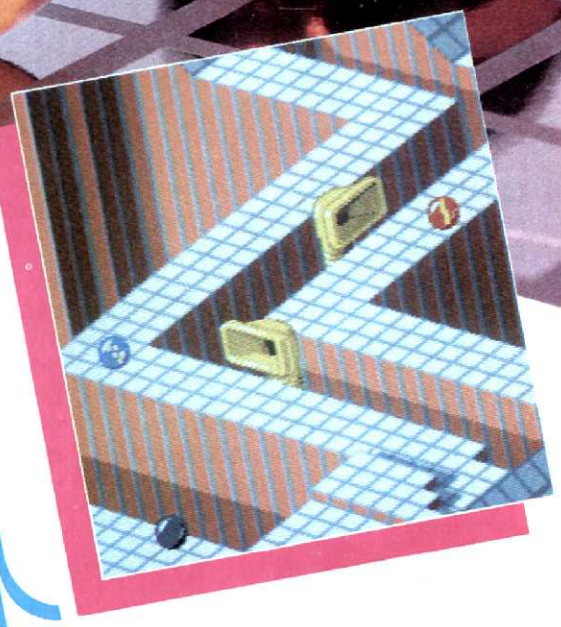
—Mark is an expert game player turned expert game designer. At 16 he was the first to "wrap" Defender at 1,000,000 points. He's never stopped getting high scores on video games or at the University of California at Berkeley. Today at 20 (with help from his team partner, Bob Flanagan), Mark has applied his "whiz kid" player experience and talent as a programmer to designing a coin video so big it'll blow you away.

"Like you, I've played a zillion ho-hum videos. So when I got the chance at Atari Games I designed a game that I could get into. . . that would really make it for me. Its craziness turned out to be great fun for everybody—beginners or experts!

It's sports competition, kinetics and strategy. . . a simultaneous 2-player marble race (you against an opponent or the computer) over fantastic 3-D terrains to find out who can Trak-Ball their marble over the Goal Line first.

Sounds easy, right? Wrong. You have to make sure your opponent doesn't trash you, or the "steelie" doesn't get you (don't pay any attention to Bob back there). Then there are all kinds of weirded-out creatures and objects to bust you—all the way through the six game levels. Ever get eaten by a hungry marble muncher? Vacuumed by a giant Hoover?"

Experience the spectacular animation, special stereo music track, and the super-fast action. Marble Madness. It's guaranteed to make you crazy!



ATARI GAMES

A Warner Communications Company

MARBLE MADNESS™

NEW FROM ATARI COIN GAMES.

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GAME OF THE MONTH

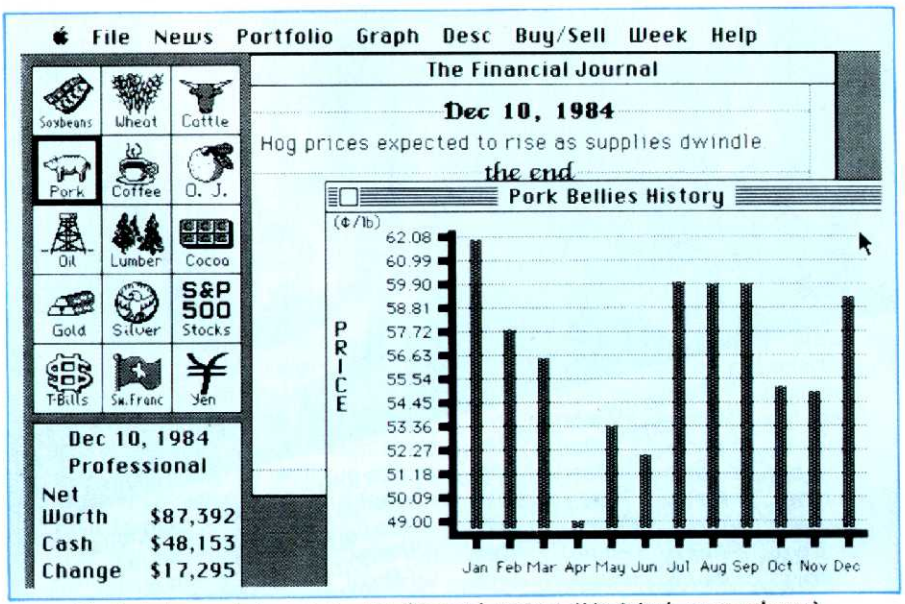
Tycoon Is One Hot Game Commodity

Blue Chip Software has struck gold with its line of financial simulation games. First gamers took stock of **Millionaire,** which centers around the financial wheelings and dealings on Wall Street, then they developed an interest in **Baron,** a great entertainment for would-be real estate barons.

Now armchair commodities brokers have their day in the sun, in a first-rate look into the world of soybeans and pork bellies. In **Tycoon,** the player starts out with $10,000 and the chance to buy low-end commodities, such as orange juice and soybeans. The ultimate object of the game is to reach a net worth of a cool million.

Novices are allowed to put their cash into soy, wheat, cattle, and the inevitable pork bellies, and can only take long positions (in other words, players must try to bankroll commodities that will increase in value). At the investor level, reached at the $15,000 net worth plateau, staples such as coffee, orange juice, heating oil, and lumber can be traded as well.

As net worth grows, so does the gamer's status in life (from novice to investor, speculator, professional, broker and finally tycoon). Only speculators or above can take short positions (investing in the possibility that a commodity's price will decline), and you have to be quite high in the pecking order before precious metals, T-bills, and Japanese yen are an option.



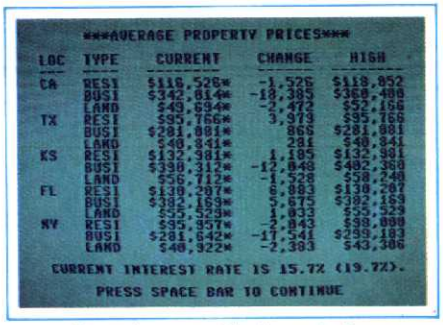
Charts help armchair analysts plan financial strategy (Macintosh screen shown).

TYCOON (BLUE CHIP)

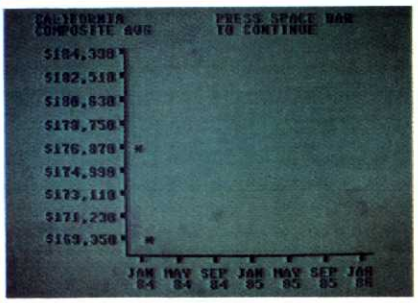
Tycoon is a full-text simulation, played with the use of an easy-to-understand menu and the keyboard. The documentation is outstanding; and up to 14 players can save their games to disk — which will undoubtedly be neccessary. After all, Rome wasn't built in a day!

During the course of each turn, the computer investor has the options of displaying graphs (on historic prices of specific commodities), taking a position, liquidating a position, displaying news, portfolio or prices, or saving the game. A nice touch is the added option of reading up on the background of particular commodities, like lumber, coffee, heating oil, or even Swiss francs. Anyone who's ever wanted to learn more about Wall Street, but found it too daunting, will find this an entertaining education.

All options are accessed with the touch of a single key. For example, press "N" to see the news screen, "B" to buy into a position, "P" to examine your portfolio, or "D" for a description of a particular commodity. The menu is only displayed once during each game week, though once the player has the key commands memorized (not a hard thing to do, considering there are only 10 options), he or she



Graphs and reports like these in *Baron* are trademarks of Blue Chip simulations.



will appreciate not having to go back to the menu screen to access options. Those who forget which key controls which function can just press the "H" (help) key to see a full list of their options.

Tycoon isn't for the casual player. While gamers progress up through the ranks faster than they do in, say, *Baron*, it still takes hours of committed play—and probably a few saved games — to even approach the Tycoon level. Of course, what the fates give, they can also take away, so the more educated the guess, the better the player's chances of coming out ahead financially. Regardless of the outcome of a particular game, though, those interested in a healthy return on their entertainment investment won't be disappointed in this worthwhile program!

Tycoon is available for the Apple, IBM PC, MacIntosh, NEC, Hewlett-Packard and Commodore 64 computers.

WIZARD OF WALL STREET SIMULATIONS

The brains behind Blue Chip's line of big-business brain-teasers isn't an ex-stockbroker or eccentric millionaire. In fact, 32-year-old Jim Zuber is actually a long-time computer hobbyist who founded one of the first microcomputer clubs in the San Fernando Valley way back in 1973.

His enthusiasm for computers even led him to sneak Commodore PETs onto the requisition list on his job as

Director of Quality Assurance at Data Products Corporation, where he was the youngest manager in the company's history despite never having completed a college degree. Jim credits his job there for helping him refine the art of conveying complex ideas simply, as he does in his financial simuation games.

His own first experience with the stock market was not a happy one. He had picked up a side job installing a $27,000 computerized staircase for an eccentric millionaire (when you stepped on the bottom step, lights and music would turn on automatically). With his $4000 profit, he took the plunge into stocks, but lost about half his investment.

Zuber takes his loss philosophically, saying that he learned a lot and had some fun. But more importantly, he decided to write *Millionaire* "to help people avoid those tough lessons." (He still thinks the most gratifying comment he's heard is when people mention "all that money I didn't lose on stupid mistakes.")

When the game was finished, Jim formed Micro Z Applications, a company to market the product. Although *Millionaire* enjoyed what he terms moderate success, he says, "I still wasn't able to quit my job."

His own financial outlook changed shortly after he teamed up with marketing mavens Bob and Eileen Slapin under the Blue Chip banner. "The interest these games have generated is beyond my wildest dreams," he says. His games not only top the computer software hot-seller charts, but they're even being used in high schools and

With his $4000 profit, he took the plunge into stocks. . .

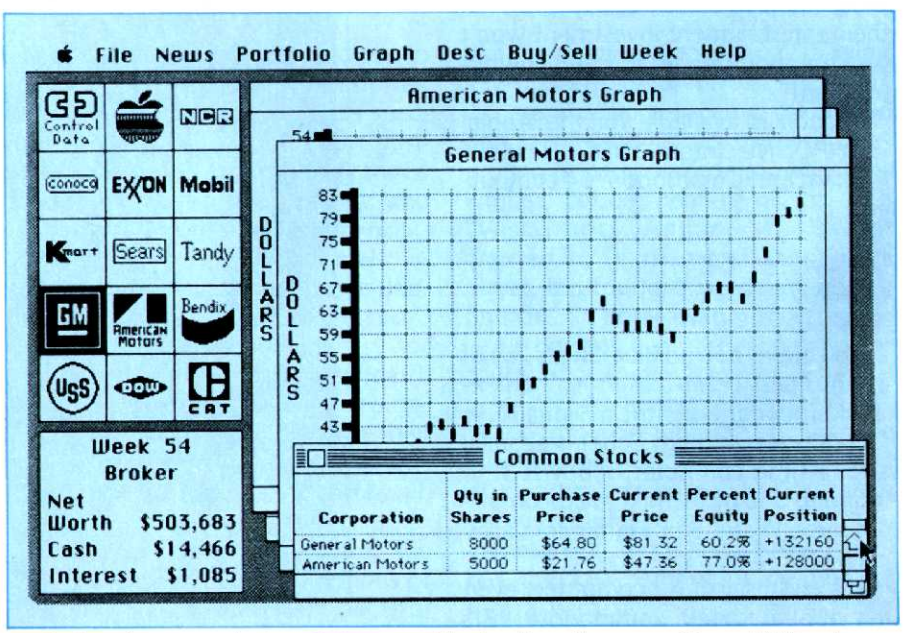
colleges as entertaining lessons in basic economics.

"*Tycoon* has the same appeal as a flight simulator," notes Jim. "People want the vicarious experience. Most people would sure as heck like to deal in the financial markets without risking any money!"

Despite his love of computers, Jim doesn't play many computer games, although he does express interested curiosity about adventures. His first love, besides wife Pat and 12-year-old daughter Tara, is fly-fishing.

Zuber hasn't been resting on his considerable laurels after turning out three solid hits. His newest simulation, **Squire,** is just coming to market, being the result of three years' intensive research. "With *Squire,* we took all we learned, plus brought in new elements, like IRA's, bonds, money market funds, and rare stamps and coins," he explains. "The computer creates a marketplace in which everything interrelates."

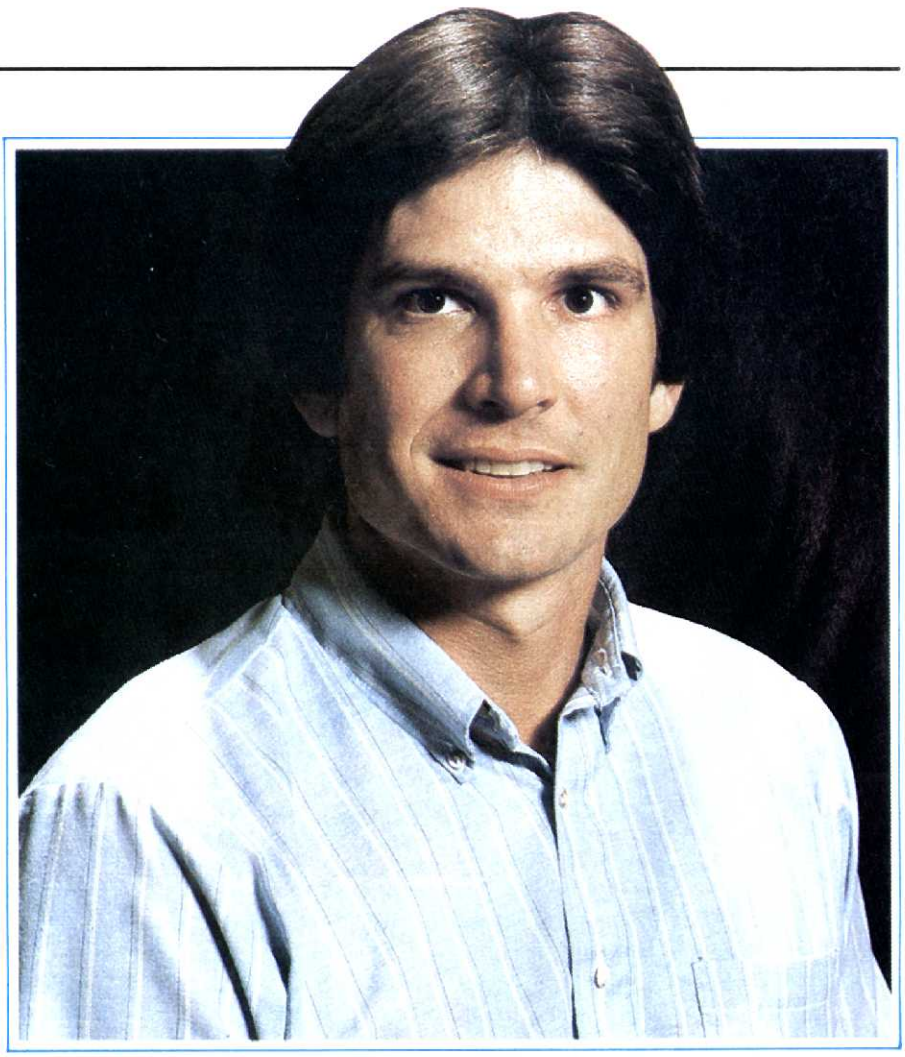
In Jim's opinion, *Squire's* crowning achievement is its "Reality Mode," which lets users create a simulation based on their own lifestyle. The computer can help you learn about retirement strategies, based on your actual income, expenditures, and must-have luxuries. There's room for interim



All Blue Chip games feature similar spreadsheet and graph screens. Above: *Millionaire.*

goals, like college for the kids or a trip to Paris, and potential investors can learn to balance between risk and rate of return to meet their individual goals — all while having fun.

Jim Zuber is a happy man. Who can blame him? Not only has he substantially increased his own net worth, but "We're doing something socially redeeming in that we give people the tools with which to better their own finances. A leading commodities broker reviewed *Tycoon* for accuracy and entertainment. What he said was that this is the real thing."



Jim Zuber researched and designed the entire line of Blue Chip financial games.

HINTS FROM THE HEAD HONCHO

For all those would-be Tycoons who don't want to risk the rent money in real life, Jim Zuber offers these tips on the road to disk-based riches:

The single most important factor in the game is the news. Take a hard look at each message, then try to analyze how it will affect future prices.

Use the graph screens as often as you feel like it. It always helps to be on top of a commodity's historic ups and downs.

Don't shy away from taking short positions, or betting that a price will go down. In the world of commodities trading, it's okay to bet on a loser — if you bet the right way!

There are certain seasonal trends in the market. Speculators always try to capitalize on seasonal fluctuations. The net effect they have is to neutralize any real price swings.

As in the real money marketplace, supply and demand forces influence prices. With crop commodities, look for an increase in prices whenever a crop fails or is damaged — and look for the price of lumber to rise when housing starts are up.

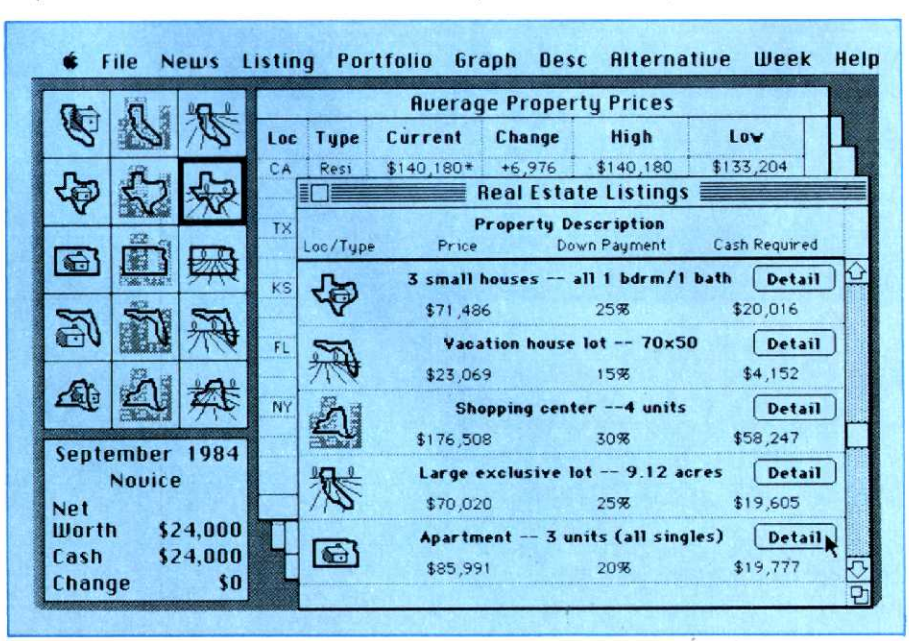
The price of precious metals is generally tied to the stability of the world. Metals always rise in price when war is in the air.

With livestock (cattle and pork bellies), inventory and slaughter rates have the biggest influence on the price levels.

Wheat, though a crop, is more likely to rise in price when worldwide demand is up. If a wheat-producing country like Canada is forced to buy instead of sell, the commodity price rises accordingly.

Interest rates on one-year T-bills are influenced most by government and industrial cash needs. Federal deficits, for example, drive rates up.

Finally, foreign currencies are always quoted in U.S. cents. Countries with strong economies (for example, those who export more than they import) will have stronger currencies against the dollar as well.



The MacIntosh versions of all Blue Chip games feature enhanced graphics on chart screens.

Electronic England

By TED SALAMONE

EG Presents Its Exclusive, In-depth Report On The Current Electronic Gaming Scene Which Is Now Flourishing In The U.K.

EG readers know how consuming a passion computer gaming is. The same can be said for joystick jockeys the world over. Where there's a computer, game ware is sure to follow!

Though there are players far and wide, only England comes close to the U.S. in software and hardware quantity and quality. Gaming in England is different, though. In some ways it's more advanced; in others, curiously behind. This mix gives English electrogaming a flavor all its own.

American third-party software programs are now making their way into a market that already boasts a host of design houses and a wealth of titles. Most of the homegrown stuff is cassette-based, since the price of carts, disks and drives is too dear.

Piracy is a major issue, since in England all computer software is considered "public domain", and copy protection schemes are far behind ours. Only now, as the wellbeing of the entire industry is threatened, are developers properly addressing the situation.

Besides original programs not seen on this side of the Atlantic, Anglo arcaders also get to choose from a number of micros unknown to us. Probably no other aspect of the industry so exemplifies the ahead/behind situation.

English computers' standard memory usually runs 48K or less in the most popular micros, while cartridges are generally not available, even for computers which accept them. It seems that no one, not even the computer manufacturers, produces them. It's strange indeed when viewed by American eyes.

Speech synthesis peripherals are now in vogue, as well as fast access tape drives called microdrives. Though more compact, easier to use and quicker than normal cassette players, they are still much slower and generally less powerful than a disk drive. Low price is their virtue.

Unless the piracy problem destroys major sections of the industry, the British computer game market should heat up in the next six to twelve months. The recent dethroning of the Sinclair Spectrum by the Commodore 64 doesn't bode well for English systems manufacturers, since none of them offers anything comparable to the C-64. It's interesting to note that more and more software vendors are hopping on Commodore's bandwagon in a big way.

If buyers' tastes are changing, as indicated by this recent turn of events, English gaming may wind up as an American satellite. That would be a shame.

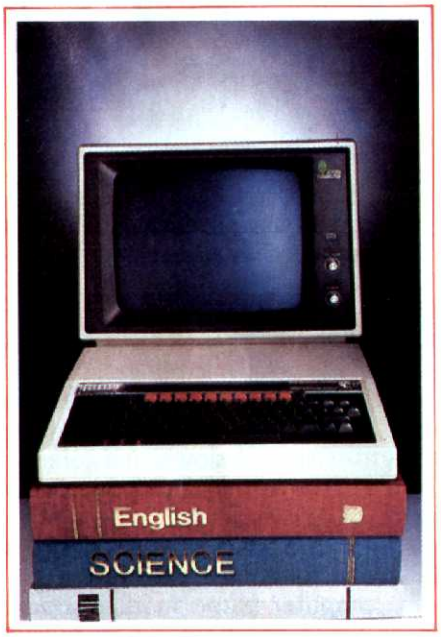
The variety of Anglo-style hardware and software is simply astounding. For a nation with a far smaller population than ours, the sheer volume is amazing. It seems incomprehensible that such a relatively small population base could sustain such a large, thriving industry until one learns that England has more home and personal computers per capita than any other country.

ELECTRONIC ENGLAND

This demand drives domestic and international companies of many sizes and capabilities. Private enterprises and government-funded firms coexist side by side in this extremely competitive and volatile marketplace.

Part of the reason for England's unmatched acceptance of computers is the low cost of the most common family of machines, those born and bred by Sir Sinclair.

Another factor along similar lines is the dominance of tape over disk drives. As it's rather difficult to sell a £385 ($500.00) drive to someone who's paid less than £150 (195.00) for a computer, manufacturers have pushed cassette drives. Most range in price from £40 to £50 ($52.00 to $65.00). The preoccupation with inexpensive devices (compared to the U.S.) is due to the lower average earnings in England. In the end, gamers in both countries spend about the same percentage of income feeding their addiction.



The Acorn computer.

Naturally, players across the Atlantic face the same problems with cassettes that we do; long access times, poor reliability and slow loading. Since price pressure often stops computerists from upgrading to floppies, alternative solutions have been developed.

Most prevalent are the turbo boosters, or fast-load systems, which enable some tapes to load faster than disks. These specialized drives are available at prices slightly higher than the standard models.

Another interesting development is the Microdrive, a £49.95 ($65.00) microcassette drive from Sinclair Research. Yes, that's Sinclair as in Timex-Sinclair, purveyors of the ill-fated TS 1000, 1500, and 2000 series in the U.S. The Microdrive is supposedly very close in loading speed to that of a disk drive for a much lower price. Its limited (85K RAM) capacity can be overcome, since up to eight can be daisy-chained to a single computer.

Another intriguing peripheral (for the Sinclair Spectrum, VIC 20, and C-64) is the Stack light rifle. That's right, it's not a typo—a light rifle. Complete with sight, shoulder butt, and twelve feet of cable, it interacts with three specifically-designed game titles. Even in the UK, though, thorough searches through numerous computer retail stores failed to turn up even one. Well, there's always next year.

From the look of things, magazine listings of type-it-yourself programs are extremely popular. Again the evidence points to economics as the major factor behind this.

Another favorite area in most of the gaming mags is the question and answer section. Unlike our Game Doctor's patients, these blokes (it really doesn't take long to pick up the language) want to know how to solve adventures or make it to the next screen of an arcade game. Queries are received from all over Europe. Everyone, it seems, just has to know.

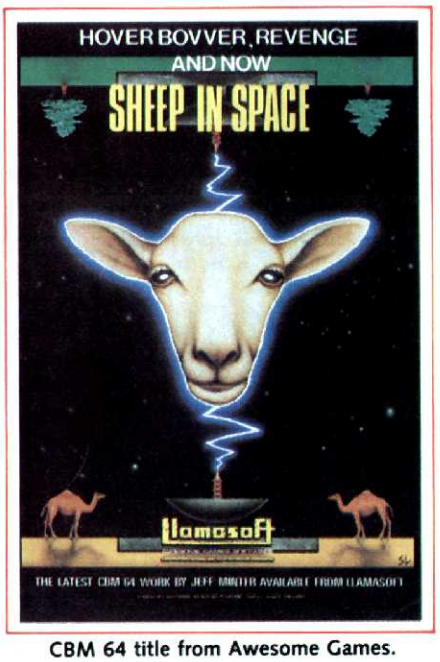
Computer snobbery is not just an American trait. Micro-based prejudice is alive and well in Jolly Old England, though instead of Apple and IBM owners sneering at gamers with less expensive micros, BBC Model B'ers do the staring down.

However, the electronic plebes rule the roost numerically. Mass-merchandised in chain, drug, and department stores, low-priced machines are displayed prominently in thousands of shop windows.

By the by, most of these stores have demo units up and running just like Child World. The one big difference is that they *encourage* tryouts before purchase. One bookstore in particular had dozens of titles (all tape format) open for test runs. We should be so lucky!

Just as English gamers are ahead of us in some respects, they are behind in others. Though adventure games have been available for quite a while, these programs are just coming into their own. Players looking for more than action games can deliver are turning to these mindbenders in ever-increasing numbers.

The ColecoVision completely dominates what's left of the programmable videogame market, a major difference from the fierce American competition between the CV and the Atari 5200. Support for it continues in the retail outlets and magazines and consumer demand remains relatively strong. Part of this continuing popularity has to do with the recent introduction of the Adam.



CBM 64 title from Awesome Games.

The Intellivision is a dead system, hardware and software being virtually impossible to locate. Even the venerable Atari 2600 is much further down the road toward obscurity than it is in our country. All the software on display for these machines was from familiar, mostly American sources. There was no evidence of English suppliers, though they might exist.

Clearly, programmable videogames in the UK have been usurped by more advanced machines with names like Commodore, Atari XL, TI, Apple, and Adam. And those are just the American imports!

English perceptions of American hardware are influenced by its relatively high cost, as well as the presence of homegrown and Asian micros. Apple II's are considered upper-class

machines, meant for the landed gentry and other privileged personages, while the Adam, available mostly as expansion module #3, has been met with familiar skepticism.

Both the VIC 20 and TI 99/4A are fading fast, as they are in the U.S. In Britain, the TI is little more than a memory.

The main representatives of Yankee compgenuity are the Atari XL's and the Commodore 64. Though more expensive than in the States, they are making their presence felt. Because of price constraints, the 600XL is more attractive, though it fares badly in RAM comparison to British computers in the same price range. The software and peripherals are viewed as being pricey, too.

C-64 owners can take pride in the fact that, according to the latest poll of 300 dealers by Research Analysis Marketing, their choice has become the hottest-selling unit in the United Kingdom. This milestone marks the first time in many years that a non-Sinclair machine has been number one. The report goes on to say that more than 700,000 64's have been sold, despite a price tag about 50% higher than its main rival, the Sinclair Spectrum. Good show, Commodore!

As if the selection wasn't wide enough already, there are numerous English micros to contend with. These computers use 220 volts and are intended to run on a TV system with more resolution than ours. Just bringing one back with you won't work.

The most popular English computer, Sinclair Spectrum, comes in two models, 16K and 48K (priced at $130-$170). It sports decent graphics, extremely limited sound capabilities, and a chiclet style keyboard one magazine describes as being the original "dead flesh."

Another intriguing machine is the Acorn Electron. Younger sibling to the more seriously-oriented BBC Model B, the Acorn is an up and comer. Boasting almost total compatibility with its corporate/government-backed big brother, the Electron has gotten off to a good start. Fitted with 32K RAM, a full-stroke sculptured keyboard, and good graphics, it's clearly an advanced English unit. Its display, hi-res graphics, internal BASIC and manuals are top drawer.

Oric's Atmos comes as an improvement to its original machine, aptly dubbed the # 1. For £170 ($221.00) Atmos offers gamers 48K RAM, advanced sound effects, good hi-res, multi-color visuals, and a word processing-grade keyboard complete with space bar. The manual, as well as built-in BASIC, are comparable to their counterparts in the Commodore 64, but these are interspersed with mistakes and have a less-than-optimal command of the language.

The last major computer from the British Isles, the Dragon 32 (guess what the number stands for) is a victim of the intensifying shakeout in both hardware and software sectors. Designed to be nearly 100% compatible with the Radio Shack TRS-80 Color Computer, this Welsh hi-tech wonder is on its last legs. Even Radio Shack retracted an offer to take over the firm. Making matters worse, the manuals are nothing short of hideous, and the software, while there's plenty around, is known far and wide for its poor quality.

Threat of the rising MSX from Japan is also on the British horizon. These computers are generally 16K RAM and sport only average capabilities and obsolescing technology, so they are becoming less and less a serious threat. Certainly they won't be responsible for the decline of the Commodore on either side of the stormy Atlantic.

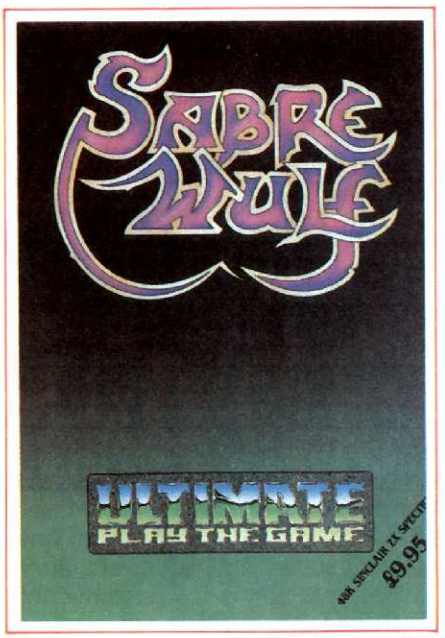
Software takes its cue from the hardware side of the business, varied and voluminous, but the spectre in the doorway of continued prosperity is software piracy. Historically, British law has treated all software as belonging in the public domain, and the industry did little or nothing to copy protect its offerings. Game software here is sold primarily on cassette, the easiest form of media to duplicate. There is grave concern over the size of piracy operations. Such theft could totally undermine development of new titles.

Though individuals account for some of the problem, users' clubs and professional pirates are by far the worst culprits. On record is one group which made 2,000 illegal copies in a single night. Another example is the full-time buccaneer that produced a mind-boggling 130,000 tapes in several weeks.

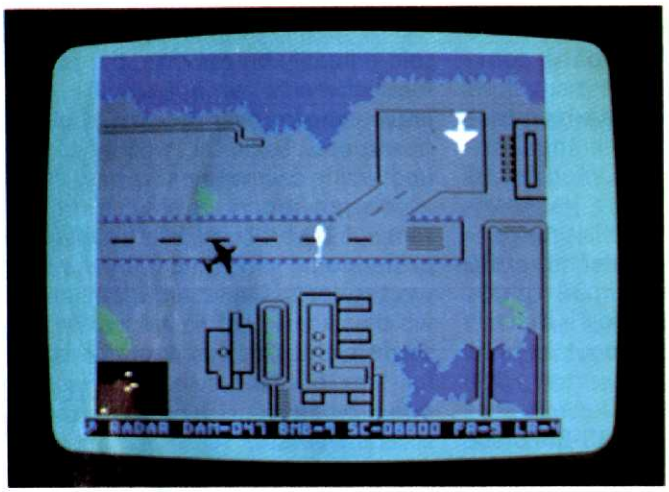
An estimated 65% of all sales are drained away because of piracy. Some pirates don't even bother to disguise their stolen games, going so far as to sell them openly. Due to this, vendors are dropping out of the market, devising copy prevention schemes, banding together for protection, and prosecuting where feasible—though as of this writing, British law is on the pirates' side.

Some firms have considered issuing all their games on ROM carts, which would not only make them much more difficult to duplicate, but also would drive the price up considerably.

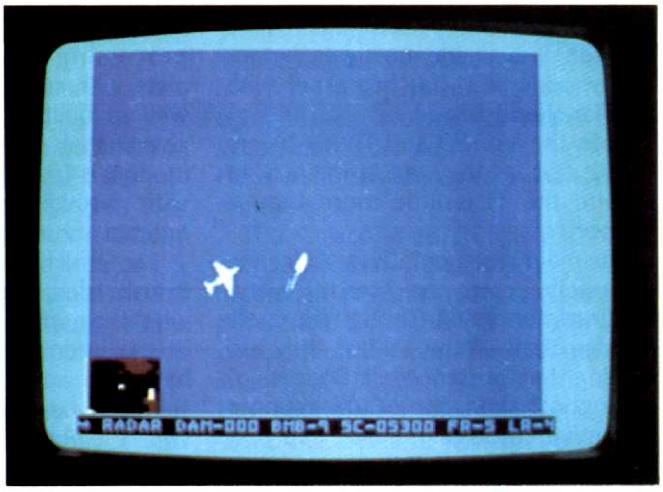
Continued piracy, whether in England or the States, can only hurt gamers in the long run. It will force some manufacturers out of the market and increase the costs of the survivors. Now who wants to pay more, or even worse, completely ruin such a good thing? G



British games for the C-64 and Sinclair ZX.



Hint: This is *not* airport with the landing pad!



White jet fighters demand fight-to-the-death tactics.

MASTERING RAID ON BUNGELING BAY

By TRACIE FORMAN

Secrets Of The Bungeling Empire— Revealed!

The gaming public's first introduction to the evil Bungeling Empire occurred when the tiny country captured 64 American hostages in Dan Gorlin's classic **Choplifter!** (Broderbund/Most systems). Now the Bungeling Empire strikes back in **Raid on Bungeling Bay.** The imperialistic Bungelings have pumped up their war machine to build a floating deathtrap capable of shooting down any American warplane — and only a single pilot can venture undetected into Bungeling Bay on a mission to shut down the Bungeling factories one by one.

Bringing the Bungeling Empire to its knees takes more than hand-eye skill. It requires careful planning if you want to survive the trip and earn your victory parade with choppers to spare.

First of all, there are certain essential skills that aspiring war heros have to master, especially the delicate art of maneuvering the helicopter. Many pilots find that they have trouble slowing down or stopping directly over factories or their aircraft carrier. If you overshoot your mark, backing up onto it can save some time and frustration. Practice firing bombs and missiles to get the feel of the timing difference. Too many good pilots fail to completely destroy factories because they've already dropped their bombs by mistake while trying to fire missiles.

TIMING IS EVERYTHING

The program has a built-in learning curve. The fewer factories already out of commission, the easier the game is. Use this knowledge to go for the most difficult target first, since it is relatively easy to destroy at the start.

The black factory is the best-defended. It has two defensive guns standing guard even at the very start of the action. This is the ideal first target. It's on a small island, usually located southeast of the carrier. As soon as you take off, head straight for this factory and drop all nine bombs on it. That should level the building, but in case it doesn't, replenish your bombs and make another run.

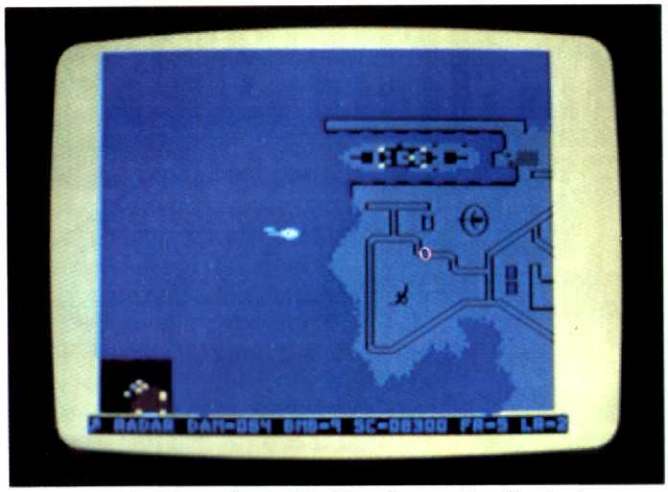
The airport due North of the black factory island is a good follow-up target. Here, you'll find a small landing pad that restocks bombs. (It's the airport island with two factories on it.) Both factories can be eliminated relatively easily by just alternating between bombing runs and the landing pad. This leaves only three more buildings to destroy.

THE BOMBING RUN

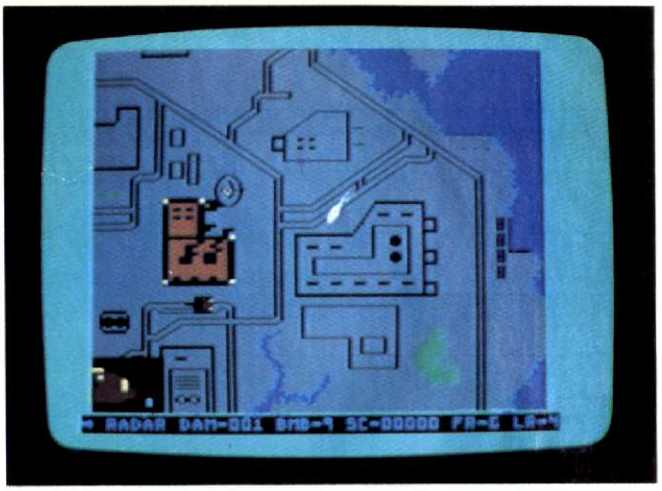
What makes a successful bombing run? First and foremost, never try to bomb a factory if its defensive guns are still functional. Before you drop your first bomb, shoot all surrounding guns while circling them, which keeps them from locking in a clear aim at your chopper. Next, knock out all nearby radar stations to decrease the accuracy of any fighter planes that happen by. Finally, shoot down all the white jets that will probably try to lure you away from the target.

When you have a clear field, hover directly over the factory and drop your entire load of bombs until you either have no more or have destroyed the building entirely.

If the factory smokestacks disappear, the building is disabled, but can be rebuilt. When this happens, make a quick dash to the carrier or the airport pad for more bombs and hurry



A completed Bungeling battleship often spells ultimate doom.



Factories' defensive guns can take a toll on the 'copter.

back to finish the job. Factories regenerate quickly, so don't spare the horsepower!

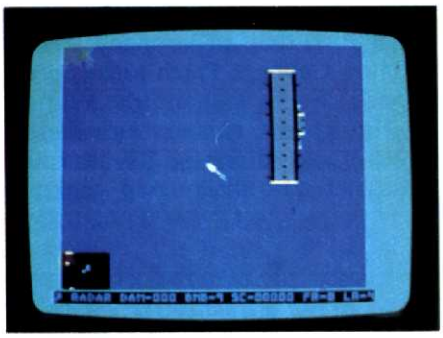
SURVIVING DOGFIGHTS

Jet fighters are a constant menace, especially after you've leveled at least two factories. These white airplanes usually show up in groups of two and three, but even with their strength in numbers, they're a lot less dangerous if you know how to deal with them. Jet missiles always travel in a straight line, so if the enemy is hot on your tail, fly a zig-zagging course to confuse them. The more erratic your chopper's movement, the better your chances of survival — and of picking the jets off one at a time.

If the worst should happen and you get shot down, use your last gasp to try to hit a factory with the chopper. Kamikaze attacks do more damage than bombs, and can even destroy a factory that has been damaged previously. Just remember, the chopper only responds nominally to control input while on the way down, so the most you can do is try to aim the direction of its spin.

THE ULTIMATE WEAPON

The enemy battleship isn't as daunting as it seems — until it's completed, anyway. Before then, it sits in dry dock on the "other" island with a red factory (the first is the airport island with the bomb pick-up pad). The only time island raiders should bother bombing the warship is when the



The carrier is your lifeline to repairs and bomb supplies. Don't lose it!

scrolling message reads "The Battleship is nearly completed." When you see this, fly over the area, find the dock and drop a load of bombs on it. That should keep the threat at bay, at least for awhile.

Once the battleship is completed, things change drastically. A Bungeling warship is a formidable opponent, with two gun ports capable of firing heat-seeking guided missiles. Once out of port, it heads straight for the carrier, and chances are it will sink it, so never let the Bungelings finish work on this project.

THE MOTHERSHIP

The carrier is the only link with civilization. Landing on it automatically repairs all damage and replenishes the 'copter's bomb supply, in effect granting a new lease on life every time you land there. Needless to say, the carrier's well-being is of constant concern.

The Bungelings are also aware of the carrier's importance, so they periodically send out a fleet of black planes to destroy it. As soon as you see the message, "Your carrier is under attack," head back to defend it, using the blue arrow at the left of the screen as a guide to the shortest route.

Once over the carrier, the black planes are so intent on sinking it that they won't even bother with your chopper. Make sure to shoot all black planes quickly or you'll soon find yourself on yellow alert, with empty bomb hatches and nowhere to go. It's not a pretty sight!

The loss of the carrier also costs all reserve helicopters, so the only time to ignore the carrier's defense would be when you're finishing the final run on the sixth factory.

THIS AND THAT

Guided missiles appear after the third factory has been destroyed. These are fired sporadically from gunports guarding factories, airports, and shorelines. To eliminate the potential danger, eliminate all the gunports in sight. Although some guns will be rebuilt immediately, some will not!

Use the map screen constantly. It helps keep track of the carrier and aids familiarity with the geography of Bungeling Bay. It also shows the exact location of all enemy objects in range, though the radar can't discriminate between a factory and a gunport. Still, it's easy to find islands that still have functioning factories — just follow the mass of yellow dots.

If you see any planes on the ground while flying over an airport, take the time to blast them to bits. This keeps white planes from harrying your chopper at key moments, and delays any attacks on your carrier.

PROGRAMMABLE PARADE

Videogames Aren't Dead Yet — And Here Are Some Good Reasons Why

CABBAGE PATCH KIDS: ADVENTURES IN THE PARK

Coleco/ColecoVision

It was inevitable. After Coleco's phenomenal success with its Cabbage Patch Kids dolls, it makes sense that it would create a videogame based on the phenomenon for the ColecoVision. More of a surprise, and a pleasant one at that, is that unlike many licensed games, **Cabbage Patch Kids** is pretty good.

Though the game is intended for younger audiences, its charming graphics and challenging gameplay (on the highest levels) will probably appeal to many older gamers as well. The game was targeted at kids below the age of ten, and they will get the most enjoyment out of *Cabbage Patch Kids'* simple, comfortable storyline and colorful, if somewhat overly cute, graphics.

As far as gameplay is concerned, this game is very much like the Coleco **Smurf** game. The player has control over the actions of a rambunctious little Cabbage Patch Kid named Anna Lee, who has the ability to run left and right and to make high, graceful leaps. The player must use these abilities as Anna Lee travels across the park, which she has to exit before nightfall. However, since the timer runs at a more leisurely pace than in most such games, the player can take some time off to play around with some of the park's attractions.

These come in many different varieties. The instruction manual states that there are over 100 different screens; enough so that the game never really becomes boring, even for a young child with a limited attention span.

Variety is one thing that this game has in abundance. The first screen asks the player to swing Anna Lee, **Pitfall**-style, over a pond. In another screen, the player must jump across a set of trampolines while grabbing apples from the branches of low-hanging trees. Yet another simply asks the player to walk a dark path which contains no obstacles. This last is especially interesting, since it gives the player a chance to rest in the middle of the game. Such 'rest' screens pop up about once every four or five screens.

The time limit is replenished after each trip is completed, and any time

left on the overhead meter is converted to bonus points. This is accompanied by animation showing Anna Lee jumping around the entrance to the park along with a lively tune. If Anna Lee doesn't reach the exit before the time limit expires, or if she is unable to get past one of the obstacles, she simply sits down and cries. In a game of this sort, this is a wonderfully imaginative solution to losing a game "life." It's much better than having her keel over like the characters in *Smurf.*

The game's graphics and sound really show off the ColecoVision's capabilities to their fullest extent. Anna Lee herself is as cute as the dolls that inspired this game and the screen graphics are spectacular. There are lots of flourishes that have no bearing on the game, like the bushy undergrowth in some screens or the giant maze in the background of others, which only serve to make the game more endearing. The sound also verges towards cuteness, but it's not used often enough for the player to get tired of it.

All things considered, *Cabbage Patch Kids* is good, solid entertainment for the pre-teen set. There's even something for the Cabbage Patch haters out there. For them, there'll be nothing like watching a smiling Anna Lee sink into the depths of a murky pond.

(Charles Ardai)

SUPER ACTION BASEBALL

Coleco/ColecoVision

Super Action Baseball, which comes packaged with Coleco's new "Super Action Controllers" (a frightening pair of contraptions covered with knobs, buttons and a large joystick), is by far the best videogame version of baseball ever made. Typically for the ColecoVision, the game has superior graphics and animation, especially in the initial pitcher/batter confrontation. But it has poor control, a horribly dull overhead screen on which most of the game's action takes place, and intimidatingly complicated instructions.

The game, which opens with a pleasant rendition of the final bars of the 'Star Spangled Banner,' has a number of variations ranging from one-player practice sessions in batting and fielding to full-fledged, nine-inning games, either head-to-head against a human opponent, or versus the computer. The practice sessions are especially useful since they help the player learn the basic rules of the game.

SUPER ACTION BASEBALL (COLECO)

Certainly the batting phase (which is beautifully drawn in a close-up from the catcher's point of view) is simple enough — a mere twitch of the joystick makes the batter swing. Unfortunately, the batting phase is too simple; the batter swings almost indiscriminately, and it's largely a matter of luck whether or not he hits the ball. The player's role in this segment is surprisingly minimal, considering all the buttons on the controllers.

On the other hand, simpler fielding wouldn't have hurt. To get control of a particular fielder, the player pushes that fielder's corresponding button. The problem here is twofold; first of all, the buttons are hidden in the handle of the controller and there's no way to check finger positioning during the game. Secondly, each button corresponds to two or more fielders, making the gamer's memorization job all the more difficult. Even the included overlay doesn't clarify matters much.

Pitching, too, involves complex memorization. Not only must the player select one of the finger buttons to press, but pitch speed must be controlled by pressing the buttons of the top-mounted numerical keyboard.

Control problems aside, the game is very good. When the joystick functions properly, the animation is very fluid. Even at the lowest skill level, the computer is a tough opponent, and though the overhead screen which displays all fielding is not especially exciting, the fast-paced action that it contains *is.* Coleco has included a number of interesting options in *Super Action Baseball* that make it unique, like the player's ability to speed up the base runners by spinning a tiny wheel, or the pitcher's ability to pick off a player caught trying to steal a base at the push of a single button.

Super Action Baseball is far from perfect, especially in the area of control. It is different, though, and especially fun for playing against another human being who's having the same problems with the controls that you are. Though it's certainly not wonderful, *Super Action Baseball* outclasses its competition by far.

(Charles Ardai)

PRIVATE EYE

Atari 2600/Activision

Activision's latest cops-and-robbers offering casts the player as the famous(?) detective Pierre Touche, who starts off in front of Police Headquarters and wanders the highways and byways of Paris in a compact auto. Moving through the city **Pitfall**-style, Pierre seeks evidence that will put the nefarious criminal, Henri LeFiend, behind bars.

Evidence is carried by "Questionable Characters," furtive figures with question marks over their heads. These types tend to hang out in the second-story windows of various buildings throughout the city. By hitting the action button, the player can send Pierre skyward to collar the characters. Not all of them carry evidence, but the conscientious player will sooner or later chance upon a gun, a rare stamp, or some other vital clue. When Pierre does net a goodie, he must have it "verified" by an expert.

The gun is returned to the gun store, a vase goes to the museum, and so on. When all of the evidence has been recovered and verified, Pierre must catch LeFiend and return him to Police Headquarters to end the game.

After Pierre picks up his first piece of evidence, LeFiend's henchmen start turning up as sinister, barely-visible figures who hurl daggers at the defenseless gumshoe. If Pierre takes a direct hit, he loses whatever bit of evidence he was carrying and is forced to search anew to recover it.

It even seems as if the city itself is

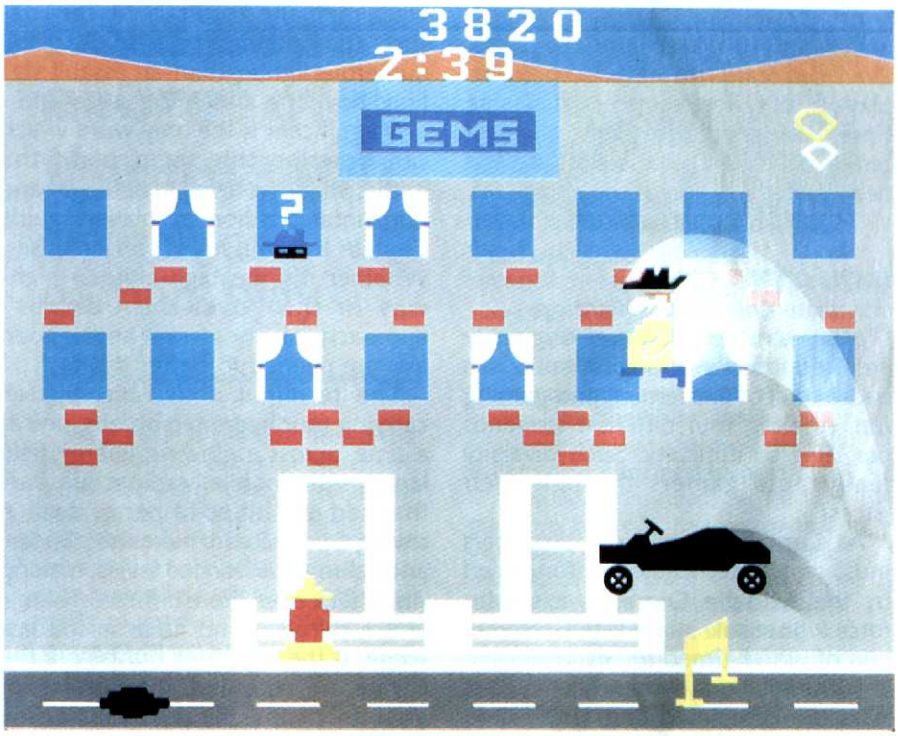
hostile to Pierre. The streets crawl with rats that must be jumped, the skies are filled with birds that interfere with Pierre's attempts to reach the questionable characters, bricks fall from the crumbling edifices, and flower pots are tossed out of windows by unseen, and clearly unfriendly, inhabitants. None of these things can kill Pierre, but they slow him down. That's bad because, depending on which skill level has been selected, Pierre has anywhere from twenty to a mere two minutes to close the case.

What stands out most with **Private Eye** is its humor. In true Inspector Clouseau fashion, Pierre Touche is totally unflappable. Whether floating through the air with his legs wiggling comically underneath him or taking his lumps in a pothole, Pierre retains the same self-confident, and slightly silly, grin. And until all the evidence has been retrieved, Pierre is compelled to just pass by Henri LeFiend without batting an eyelash, even though the arch-criminal is often in plain sight.

This is not a contest for those who prefer to breeze through the introductory rounds of a game. Since this is essentially a memory game, with the various pieces of evidence always located in the same place for each attempt, expect to spend at least the first few tries at each skill level just finding out where all the goodies, fiends, and buildings are. Once a player has all the locations commited to memory, *Private Eye* becomes a matter of skill and endurance. Even at twenty minutes for the toughest of the five difficulty levels, there's just barely enough time to find and return all the evidence and collar LeFiend. Bump into one too many rats, catch more than a couple of daggers, cruise the endless city streets rather than turning up a sidestreet that might be a shortcut, and the gamer may as well hit the game reset switch, for the mission will never be accomplished in time.

But the player who can handle the pressure of an exacting time limit, and who enjoys a good test of memory and hand-eye coordination, will no doubt find *Private Eye* a wide ranging, detailed scavenger hunt.

(Dan Persons)



PRIVATE EYE (ACTIVISION)

MARIO BROTHERS

Atari/Atari 5200

The Mario Brothers Plumbing Company's first client is the owner of a waterlogged mansion who has hired brothers Mario and Luigi to clean out the mansion's pipes. Simple enough, right? Wrong. It seems that the pipes are not simply clogged with dirt, hair or grease (after all, if that were the case, Liquid Drano would have sufficed). Rather, a number of evil creatures have made their home in the pipes, and they don't especially want to be flushed out. So, it seems that Mario and Luigi have their work cut out for them.

In order to rid the mansion of its pest problem, the brothers have to coerce the creatures out of the pipes and then knock them into the water at the bottom of the screen. Coercion is no problem, as the little beasts like nothing better than scampering around the screen trying their best to send our heroes to an untimely demise. The knocking is another story altogether, and must be performed in a very unorthodox manner. First, a player must stand on the level beneath one of these pests and push the action button. If done correctly, this maneuver will knock the creature onto its back, at which point the player must jump up to its level and touch it to dump it into the water. Alternatively, there is a box marked "POW" at the base of the screen which acts, when punched, as if the player had punched all the levels simultaneously. If an overturned beast is not disposed of before the time limit runs out, it rights itself and starts chasing the brothers again, only faster than before.

A great variety of creatures plague Mario and Luigi, and each is potentially fatal. There are ten biological enemies like the turtles (called "Shellcreepers") and the crabs ("Sidesteppers"). Then there are the bizarre menaces like the giant, armored houseflies known as "Fighterflies" and an armada of animated icebergs ("Slipices") who have the ability to make the floors of the various levels slippery. Finally, there are the red hot fireballs which blaze around the screens like wildfire if the player stays in any one spot too long.

In addition, each creature must be dealt with in a slightly different fashion. The flying Fighterflies and fireballs can only be destroyed when they are touching the floor. The Sidesteppers have to be punched twice before they flip over. In fact, only the slow moving Shellcreepers can be disposed of with one punch.

The 5200 version of **Mario Brothers** is truly a triumph. It is a nearly perfect copy of the arcade game in every way; even the graphics and sound mirror those of the arcade version flawlessly.

All of the arcade game's ingenuity and charm has been brought home. Even the option to have two players play on the same screen at the same time, either cooperatively or competetively is here. *Mario Brothers* is a near-perfect version of the arcade hit.

(Charles Ardai)

AQUATTACK

Interphase/ColecoVision/Cartridge

Multi-screen action and originality are **Aquattack's** strongest suits. It's packed full of excitement and gaming fun, offering four different scenarios per level of difficulty. Such diversity really puts gamers through their paces!

As Captain Bliztek, compugamers must penetrate hostile territory ruled by the Axtoatle Combine, a sinister force whose sole intent is the domination of world armed forces. A mission is successful only when the various tasks are completed before the time lapses (in the terminal phase), or the Captain suffers fewer than ten hits per complete round of play (all segments combined). Not an easy feat by any means.

Players maneuver an armed speedboat through a treacherous canal loaded with obstacles (natural and man-made) in the initial phase of this single-player game. Realistic looking tanks traverse the riverbanks firing artillery, while 'copters roar overhead spewing deadly homing missiles. The moves of a New York cabbie are needed to escape the whirlybird's onslaughts; a combination of agility and a determined defense handles the tanks. The tricky part is not running aground while avoiding the never-ending bombardment.

Phase two pits gamers against more of the same dangers, except that the action now takes place inside a tunnel in which everything becomes more difficult to see. Three-quarters of the way into this scene an audible alarm sounds, signaling the approach of an aerial tanker and its much-needed hydrocarbon gas packets. After a quick refueling, it's on to step three.

This time, compugamers steer a powered hang glider through a fantastic world of zeppelins, box kites, balloons, and roving missile launchers. Using a specialized control system which simulates true horizontal and vertical movements, players dodge missile and white methane gas attacks as they destroy (by ramming or firepower) the numerous lighter-than-air assault stations hovering above the landscape.

Magnificent is the only word which can describe this segment of the battle. Shadows help judge height and horizontal position as players guide Captain B through the stiff defenses. Whether it's the high-altitude highway or the "over-the-treetops" approach, plenty of skill and a good aim are needed to better this test.

The terminal phase has Bliztek carrying four hydrogen bombs, one at a time, across a glowing energy field laced with mobile, radioactive bars that add one hit point per contact. A roving Guard Droid makes his appearance at more advanced levels, making *Aquattack* even more difficult. There's also a thirty-second timer in the last scene. If the time runs out before the bombs are relocated, it's curtains for your only game life regardless of the number of hit points accumulated to that point.

However, success is sweet! The entire flight line of Axtoatle choppers (whirling blades too!) explodes into a firestorm of blazing fuel and twisted metal, temporarily thwarting the evil plans of the Combine. After a brief bonus (intermission) screen, it's on to more of the same, only at higher skill settings.

The graphics are nothing short of spectacular, especially in the hang-glider scenario. The zep propellers spin and the box kites tug at their tethers. Detail is evident everywhere, the colors are particularly eye-pleasing.

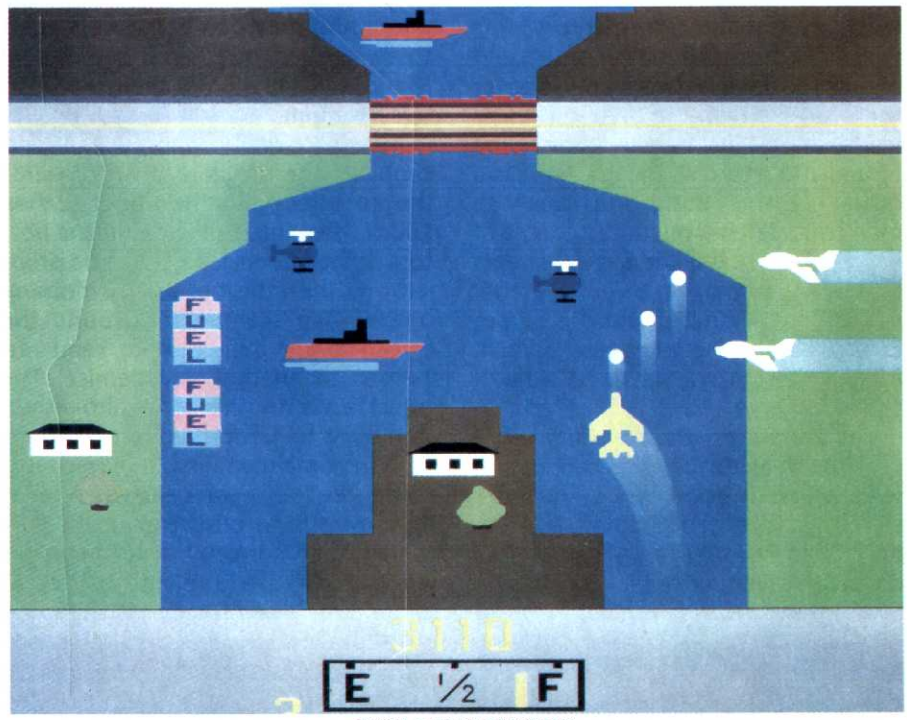
An "adventure-type" theme song plays on occasion, complementing the well done sound effects. Joystick response is good, although the hang-glider control system requires some getting used to. Needless to say, it's worth the effort!

(Ted Salamone)

RIVER RAID

Activision/ColecoVision

River Raid is pretty much *River Raid*, whether it's played on the Atari 2600, an Atari computer, or the ColecoVision. That's good news, because it means that the ColecoVision version of Activision's scrolling slide-and-shoot is just as exciting and addictive as its predecessors. The river is narrower in the Coleco game, and its bends are the most rounded of all the cartridge versions available, but aside from that and some graphic flourishes that place radar antennae and rocket launchers on shore (and out of reach of your plane), gameplay is virtually identical. No complaints there, because, in all its incarnations, *River Raid* remains an enjoyable, streamlined test of hand-eye coordination.



RIVER RAID (ACTIVISION)

Still, Activision has yet to come up with an original game that fully uses the ColecoVision's unique graphics, sound, and gaming abilities, but that obviously is not yet in the company game plan.

(Dan Persons)

DEFENDER

Atarisoft/ColecoVision

This version of the classic scrolling shoot-'em-up **Defender** is merciless, action-packed, and well up to its reputation as one of the most exciting games ever created. The ColecoVision controllers are well-suited to the game's control scheme, with smart bombs and lasers operated from the two action buttons, while the zero key activates the hyperspace drive. All told, the setup is a lot more convenient than the nightmarish control panel on the arcade game. And the player needs every advantage he or she can get, because *Defender's* aliens give no quarter in their attempts to conquer the planet.

Yet, arcade goers may be a little disoriented when they first try out this adaptation. It isn't that Atari hasn't been faithful in the translation, but the feel of this *Defender* is markedly different from any other version currently available. The graphics, while as remarkable as always, somehow seem more dimensional. Instead of the small, finely-detailed spaceships seen elsewhere, characters in this game are larger and clearly visible, though not so big that it adversely effects gameplay. The only exceptions are the swarmers, which are close to being mere dots, and yet have sloping sides that are clearly visible. Movements seem to be smoother and more lyrical. Supplementary effects, such as the materialization of the enemy or the explosion of the Defender when it is destroyed, are even more abstracted than they were in the original.

None of this is necessarily bad, just different. In fact, this version is actually superior to those done for Atari's own game systems. The whole feel of the game is more other-worldly, and more graceful. Purists may grumble over not being able to have an exact duplicate of the arcade game, but for the rest of us, the ColecoVision *Defender* is a real beauty. No library is complete without it.

(Dan Persons)

PARTY QUIZ

Best kept secret of the season

Computer gamers play PQ for hours

What's a PQ, you ask? See—I told you it was the best-kept secret! PQ stands for *Party Quiz*, a computer-trivia game from Suncom Inc.

PQ is a *social* trivia game that allows up to four players to participate simultaneously. Each player uses a controller to respond directly to the trivia questions on the screen.

Recently, a couple of friends, Chuck and Joan, stopped over to visit. I had just received my review copy of *PQ* that afternoon, and I decided to "boot-up" the program and see just how social this game really was. I couldn't have picked a better couple to participate in an "acid test"—Chuck hates board-type trivia games, and Joan absolutely loathes computers, although she likes trivia questions.

Setting up the game was easy. Each set comes with 2700 "general" questions. Suncom will be offering additional question disks covering specific categories including Sports, Entertainment, a "Bible Edition", and General Edition 2 which expands your inventory of general questions. I received the Commodore/Atari version, although *Party Quiz* is also available for the Apple and will be available soon for the IBM-PC.

After offering my guests beverages and excusing myself to fetch their drinks, I slipped into my study and loaded the game. Returning, I casually asked, "Which country was the first to issue postage stamps and what was the year?" Joan quickly answered, "Great Britain in 1840; now ask me a hard one!" My plan was working; we were on the subject of trivia. I mentioned that I had just received PQ that day, and I was wondering if they'd like to try answering some of the questions asked by the computer. We gravitated into my study.

I handed controllers to Joan and Chuck. My wife, Liz, and I manned the third and fourth. I explained that the computer would display a question, along with four possible answers which were numbered 1-4. The rules were simple: select the right answer and press the corresponding button on the controller. Joan mumbled something about being a klutz, but she took the controller anyway, eyeing it suspiciously.

After Joan answered the first two questions correctly, I suspected that I was being set-up here; for a "klutz" who hated computers, she was doing very well. She missed on the third question, but Chuck answered correctly. Liz answered the next few questions correctly, and then finally, I got one right. It's not every day I get to look like a dummy in front of my friends!

We spent hours playing Party Quiz and all had a great time playing! The questions covered a myriad of topics, from the color of the Lone Ranger's pants to whether the first footprint on the moon was from a right or left foot.

It had been a special evening, indeed! It's not often that I get the chance to use "non-computing" people for play-testing a new product, and even rarer when I can have my friends actively participate in a computer-based game. We're even considering throwing a PQ Party one of these weekends!

As they were departing for home, Joan mentioned that it was about time she bought a computer for her son to do his schoolwork on. Who's she kidding? Not me—I know she's going to buy one to play Party Quiz on!

As I mentioned at the beginning of this piece, PQ is probably the best-kept secret of this Christmas season, at least for now. If you know someone who has a home computer, and/or is a trivia buff, why not pick up a copy of Party Quiz—it makes a perfect Christmas gift. But you'd better hurry while you can still get one—you know how hard it is to keep things a secret at this time of year!

PQ is available at your favorite local computer retailer. To locate the dealer nearest you, call toll free 1-800-323-8341. (In Illinois 1-312-459-8000).

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By BILL KUNKEL

Karate Champ: New Coin-Op Kicks

KARATE CHAMP

Data East

While the rest of the coin-op industry is either running around in circles or waiting for the "next **Pac-Man,**" Data East has been busy creating games. *Real* games, the kind that offer players more than just another prettied-up target shoot. Following the groundbreaking **Tag Team Wrestling,** Data East continues the theme of simulated hand-to-hand combat with its latest offering, **Karate Champ.**

This game takes considerable advantage of huge memory capacity to produce a martial arts contest of previously-unseen breadth. The game begins in the gym, where experienced players can limber up while novices explore the potential of the coin-op's dual joystick controllers. In a configuration somewhat reminiscent of **Robotron,** the left joystick controls movement while the right initiates more forceful action — in this case, a series of kicks and punches in place of arcading's more common laser blasts.

The copious instructions, conveniently printed at the bottom of the screen, offer the joystick positions for some 24 possible maneuvers. There are straight punches, kicks, leaps and crouches, and combinations of these produce virtually every martial arts tactic ever seen in those marvelously campy Kung Fu flicks. There are spinning reverse kicks, head kicks, straight-on punches and even a marvelously acrobatic leap — in either direction! — that can take the player surrogate soaring over the opponent's head, to land *behind* him, ready to toss off a lethal spin kick.

As a blow is struck, it appears at the top left of the screen, followed by an audio-visual announcement of its point value. The score is totaled up and players move through a series of competitions, into the Nationals (intermediate) and, ultimately, on to World Class competition.

For an intermission bonus, a series of intriguing challenges are presented at the end of every round. At one point, a parade of missiles are thrown at the on-screen gladiator. Then there's the board-busting scenario, in which the player attempts to shatter a mighty stack of wooden planks. And what karate competition would be complete without a bullfighting sequence? I kid you not: at one point a *bull* appears, charging madly right-to-left.

Graphics are this game's weakest point. As good and serviceable as the visual presentation is, some of today's more jaded arcade denizens may find them a trifle bland and uninspiring when set side-by-side with the super-graphics available on many of today's machines. Nonetheless, each setting in *Karate Champ* varies from the one before. There are bigger crowds at the major competitions, for example, and only a few fellow students in the gym.

Points are scored much the same as in actual karate competition, with successful blows awarded a half-point, one point or two points. The computerized combatant is clad in a red gi while the player-controlled fighter wears white — an important element since these opponents will be leaping all over the lot before very long. There is a good, long play period in this game, with even moderately experienced players able to last quite a while.

With so many of today's coin-ops opting for visual excellence while settling for mediocre play mechanics, *Karate Champ* proves a fascinating exception. It fits the old arcade axiom for a successful contest: easy to learn, difficult to master. It's a shame that more coin-ops don't follow Data East's lead and create games that are rewarding to *play* as well as watch.

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New Products

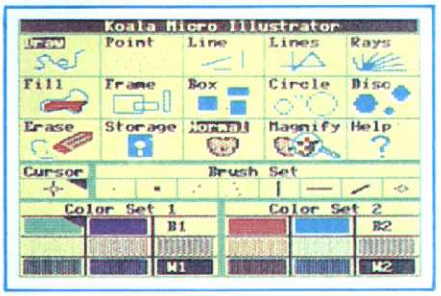
FINGERPRINT GRAPHIC PRINTER INTERFACE

Thirdware Computer Products/ Apple II, +, e/$149

Almost every computerist has wished, at some point, for an easy way to dump any screen display to a dot matrix. Many programs, and certainly all games, lack such a hard copy feature.

But now Apple owners can have their pie and eat it too, thanks to the FingerPrint parallel printer interface card from Thirdware Computer Products, 4747 NW 72nd Avenue, Miami, Florida 33166. Impatient folk can call 800-528-0470 ext. 2112 (from Arizona, call 800-352-0458).

The FingerPrint, which plugs into expansion slot one, works as a normal parallel card. Beyond that, the software-driven unit pauses screen action to print text and low res and hi-res graphics. It even has a double width graphics mode.



The Micro Illustrator's yellow background courtesy of the Fingerprint Interface.

Direct keyboard-to-printer access is possible, as is the ability to interface with the Apple monitor and user-programmed routines that use the available 2K RAM. Housekeeping chores are handled by the card's 2K to ROM.

The cards can be easily interchanged to cope with expanding technology, or just to provide 4K RAM for ambitious users.

MICRONEYE

Micron Technology, Inc./ Commodore 64, Apple II +, IIe (48K minimum), IBM PC/ $300 and up depending on model

Like digital picture T-shirts? Now anyone can make them with Micron Technology's remarkable MicronEye cameras.

With two versions of computer imaging available (bullet and regular, this hi-tech wonder allows Commodore 64, Apple II+/e, and IBM PC owners to take and save digital pictures of anything, including text. Uses are just waiting to be discovered!

Pictures are produced in black and white or a three-stage gray shaded format. Enhanced or normal-sized displays are possible, and hard copies can be produced with an Epson dot martrix printer. The files can be saved to disk or even colored by Inkwell's Flexidraw program and then sent via modem.

The camera, software, and a comprehensive manual are designed to make it easy for all users, even the non-technically oriented.

Micron Technology, 2805 East Columbia Road, Boise, Idaho 83706, (208-383-4000).

TECH-SKETCH LIGHT PEN

Tech-Sketch/Commodore 64

Tech-Sketch has a light pen for the C-64 which, when coupled with their **Paint-N-Sketch 1** disk, allows would-be Picassos to turn their computer into an electronic easel.

After careful (but easy) calibration, the main menu appears. Through on-screen prompts computer generated figures like circles and rectangles can be plotted by depressing the pen's action button at just two points. Freehand sketching can also be done, and a fill mode is available to paint the pictures in up to three colors.

From Tech-Sketch Inc., 26 Just Road in Fairfield, N.J. 07006.

ARCADE

By DAVID LUSTIG

Large corporations, whether they're supermarket chains, department stores, fast-food outlets or videogame arcades, tend to look the same after a while. Gone is individuality, replaced with sterile sameness that could be located in Muncie, Spokane or Shaking Rose Bush. Happily, Malibu Fun Centers, an overall name for 32 outlets encompassing three different themes in more than a dozen states, strikes a happy balance with necessary uniformity, creating a guaranteed good time for the entire family.

Primarily, Malibu Fun Centers, headquartered in Woodland Hills, California, are best known for their Malibu Grand Prix's, a combination videogaming arcade and outdoor motor raceway where you are the driver. Another variation is their Castle Golf-N-Games, sort of a magical Camelot of the first concept. Designed for larger land use, these include the racing cars, miniature golf, bumper boats, and at the heart of it all, the castle, which provides the best part of all — scads of videogames! Finally, there is the firm's newest endeavor, Showboat Golf-N-Games; this is a castle with a riverboat motif.

The fun centers are truly designed for family entertainment. At the Malibu Grand Prix there are two sizes of cars; persons with a valid driver's license can use quick-as-a-rabbit Virage cars, while younger drivers, who have to be at least 4 ft., 4 in. tall, use the Road Runner Cars. The object is to get around the 4/10ths of a mile lap in the fastest possible time. You are on the track by yourself, there's nobody else to bump into and your time is

AMERICA

recorded by an electronic clock as you cross the finish line.

The game rooms are clean and pleasantly lit with plenty of uniformed attendants to help unstick a stuck **Donkey Kong,** answer questions and insure proper security.

Tokens are the order of the day at the Malibu locations, with any individual outlets giving the mass quantity token buyer a price break.

What such diversification (bumper boats, batting cages, miniature golf, arcade games and race cars) has done is to insure that any member of the family will find something of interest. After all, there's nothing worse than going out with the gang for the evening only to realize there is nothing that interests you.

And this concept is apparently quite successful. The Malibu Grand Prix people have expanded from California as far east as New Jersey. You can presently find a Malibu Fun Center at the following locations: (All are Malibu Grand Prix's unless noted). Arizona— Phoenix, Tucson; California — Anaheim, Fountain Valley, Fresno, Northridge, Oakland Castle Golf and Games, Pacheco, Puente Hills (Showboat), Redwood City (Castle Golf and Games), and San Diego; Colorado — Denver; Florida — Dania, Orlando (Castle Golf and Games) and Tampa (Castle Golf and Games); Kansas — Kansas City; Kentucky — Louisville; New Jersey — Mt. Laurel; New Mexico — Albuquerque; Ohio — Cincinnati, Columbus, Dayton; Oklahoma — Oklahoma City; Oregon — Portland; Tennessee — Memphis; Texas — Austin, Dallas (Castle Golf and Games), Houston (2 Grand Prix's and one Castle), Hurst and San Antonio (Castle).

Blending Arcade and Action — For The Whole Family

By THE GAME DOCTOR

The Doc On "Doctored" Playfields

In addition to the usual batch of questions on new machines and software, a number of readers have revived an issue that has plagued electronic gaming since the days of **Pong.** Let's tackle that one first:

Q: *I have seen pictures of ColecoVision and other systems' videogames that look entirely different in reality. Some examples are the catalogue picture of ColecoVision's* **Zaxxon** *(which looks better in the picture) and Probe 2000's* **War Room** *(the picture that appeared in EG was an insult to the graphics of this wonderful game).*

Is there a way to find out what a game really looks like before buying it?

(David Bluestein, Portland, OR)

A: Here's the story, David. Because of the difficulty of photographing screen playfields, it has become a standard practice for companies to have artists render a game's graphics for advertisements. Moreover, since playfield reproductions have become so all-important in the sale of game software, and since one screen is all most consumers ever see, publishers have come to favor symbolic rather than realistic playscreen reproductions. In other words, if the game in question is an adventure-exploration contest featuring a collection of five different wandering monsters, the company-issued playfield drawing may feature all five creatures — even if they never appear simultaneously in the game.

As long as the graphic elements are depicted accurately, the Doc has *no problema.* However, when the screen-shot is a clear enhancement (or, as you point out, is markedly inferior), then we have a problem.

How to get around this? Well, with the number of versions in which popular software titles appear, the only way to be completely certain of how a game looks is to play it. Go to a software dealer who keeps hardware systems up and running, and try out a game before plunking down your hard-earned cash.

Q: *How come in all the catalogs and magazines it says that* **Rocky** *(ColecoVision) is for use only with the Super-Action Controllers? I said, "No way I'm going to pay $80 for controllers just to play Rocky." So, I bought it anyway just to see if it worked with my regular controllers, and it did. Why did they say it only worked with the new controllers? It works well on mine, except that you can't block or duck. I think Coleco just wants more money.*

(Chris Bates, Depew, NY)

A: Whew, this is pretty incredible stuff, Chris. You didn't want to buy special controllers just to play *Rocky* so you bought it *anyway,* just to see if it would work?!

I think you've answered the question yourself when you say the software works fine "except that you can't block or duck." Correct me if I'm wrong, but I was under the impression that, in boxing, it's fairly important that you be able to block and duck!

Q: *Hey, Doc, I've just purchased a Mockingboard for my Apple II+ and*

Coleco's Super-Action Controller.

I'm curious if any of the new games for the Apple will be using it?
(Mike Louis, Richfield, MN)

A: Check out **Ultima III** from Origins and Electronic Arts' **Music Construction Set.**

Q: *This is the ninth letter I've written asking the same question (the guy in your October '84 issue only wrote five times before he was answered).*

When does Coleco plan to produce a modem or a disk drive for the Adam? Now, I'm sure you can find room in your magazine for just this one letter?
(Dale McGinnis, Raeford, NC)

A: Well, Dale, it seems the ninth time's the charm!

As it happens, both items are *now* available from Coleco. There, wasn't that easy?

Q: *I am a little confused about your news in the "Software Beat" section in the November EG. What exactly do you mean by: "There are no definite plans for more titles in this controversial configuration."?*

Does this mean that Coleco is abandoning the Adam? Or just the Data Drive system?
(Jeff Silva, Tacoma, WA)

A: Take it easy, Jeff — hyperventilate into a paper bag or something. Coleco is not abandoning the Adam, but the tape drive *has* proven to be a difficult data storage medium. However, the Adam disk drive should provide a perfect medium for higher-memory software, with the cartridge format fine for arcade-type contests.

Q: *Listen, Doc, I've got a few questions for you. First, is Atari going to produce a steering module? Also, does Atari have any plans to emulate Coleco and make a laserdisc module?*
(Scott Sisha, Trinidad, W.I.)

A: Atari has no current plans to produce a laserdisc module. In fact Coleco has also dropped its plans. The laserdisc was, for a while, looked upon as the next major computer storage device, with its capacity to store so many thousands of optical images. However, with the increase in computer memory and the machines' plummeting prices, the laserdisc system has become virtually obsolete while we watched. Games like Sierra's 128K **King's Quest** offer a range of graphics as good as many laser games, but with a greater capacity for user interaction.

KING'S QUEST (SIERRA)

The Adam computer (Coleco).

Q: *I have an Adam home computer. I also have a problem.*

Whenever I'm doing high resolution graphics and I get tired, I save the program and turn off the computer.

After the second time, when I have finished the program I'll turn off the computer to come back later to look at the picture, but the part of the picture that I did the second time won't be on the screen or in the list.
(Joel Van Allen, Grass Valley, CA)

A: Okay, Joel, try storing the tape *away* from the computer, since the Adam's power start-up can erase taped programs! Don't leave it in the data drive during power-up or power-down, either.

Q: *Could you tell me what the best computer would be for word processing and amateur programming? My family and I have been thinking of the Apple IIc as a good home computer with its many programs and good reputation. I live in Germany and the only information about electronics I hear is from EG.*
(Brian St. John, Stuttgart, Germany)

A: From a word processing point of view, virtually all the major home computers have access to the same programs — **Bank Street Writer, Wordstar**, etc. As long as you're comfortable with the keyboard, there shouldn't be a problem.

From programming, similarly, almost any computer will do. However, since you show a preference for the Apple, might I suggest the IIe in lieu of the IIc. The IIe is not only less expensive, it has a more "open" configuration, making it more suitable for hacker-type applications.

Q: *I have a few questions about the C-64. First, is Commodore planning to release a laserdisc module for its computer? Also, can you use Atari 2600 joysticks on the C-64 without ruining that joystick or computer? And one more question: Who won the big debate about the Atari 5200 vs. the ColecoVision?*
(Robbie Boyd, Southgate, CA)

A: In order: no; yes; Ronald Reagan.

SHORT SHOTS: To the best of my knowledge, Atari's Swordquest series has been jettisoned with only the first two of four cartridges in release, for all those hardy adventures who wondered. . .Also, regarding Atari, its excellent software development house, Atarisoft, has been disbanded.

Aloha.

Here are some modest examples:

LEARN TO PLAY A MUSICAL INSTRUMENT. I recommend a harmonica, because it's portable. A kazoo is even better. It's not only portable, but it doesn't take much talent. Three lusty choruses of "Beat It" will give even the most convoluted adventure game time to load.

CONSULT THE I CHING. Why attempt something as difficult as playing an electronic game without tapping this ancient source of wisdom? A timely pre-round insight can add more points to your score than a new gourmet joystick! Of course, this isn't the only oracle which can serve the gamer. The important thing is to make sure that the selected method is appropriate to the computer milieu. Astrology, numerology and palmistry are fine, but a crystal ball takes even longer to warm up than a C-64, and divination with sheep entrails exposes the console to possible contamination.

TAKE A NAP. Push the snooze alarm button on the clock radio and enjoy a few delicious minutes of rest before rising, refreshed and invigorated, to challenge the game. If you've got enough software to keep switching games, you can get the equivalent of a full night's sleep by just gaming 24 hours around the clock.

MEDITATE. In electronic gaming, as in tennis, only the naive beginner neglects the Inner Game. As the sounds

of the boot cycle lull the player's conscious mind into the proper receptive state, ponder the following: "Am I truly prepared for the gaming test which I am about to face?" By the time you've considered every facet of this question and have attained a state of peace with your Essential Being, the program's title page will be flashing on the monitor.

MAKE A 'DUTY' CALL. Instead of sitting there like a lump, why not reach out and touch someone? This is an especially good time to call someone with whom you don't really want to talk. Thanks to the C-64, you can cut potentially interminable phone calls to a few minutes by telling the party on the other end of the line that you've got to go and take care of your computer when the theme song blares into the room to announce that the booting is completed.

CHECK YOUR BIORHYTHM CHART. The C-64 is the only system which gives you the time to see if your mental, physical and emotional cycles make this a "safe day" for electronic gaming. Is your physical level high enough for **Kaboom!**? Is your emotional state proper for **Pogo Joe**? Researching your biorhythms for the day may prevent the embarrassment that can result from tackling something like **Mask of the Sun** on a critical mental day.

With these six suggestions to get you started, most computer gamers should be able to think of a host of ways to use the loading cycle profitably and pleasurably. In fact, you can use the time you'd have otherwise wasted when you load your next C-64 disk to formulate a plan. And the next time someone casts aspersions on your Commodore 64 and its rather lengthy boot-time, you'll be able to point proudly to the wide range of non-electronic activities this wonderful microcomputer system makes possible.

THINGS TO DO WHILE THE COMMODORE LOADS

Killing Time with America's Favorite Microcomputer

By ARNIE KATZ

I love my Commodore 64. There — I've said it and I'm proud. It has good graphics, breathtaking sound and software that gets high marks for quality and quantity.

Check the sales figures, and it becomes pretty obvious that a lot of other people love their Commodore 64's, too. The C-64 didn't get to be the top gun in microcomputing by accident.

Yet, contrary to the proverb, love is not blind. Surely almost every C-64 gamer has noticed that the system has a few, well . . . idiosyncrasies. Even those who compare such minor flaws with the minute imperfections of a beautiful face which give it that special spark can't fail to notice the shortcomings of their favorite system.

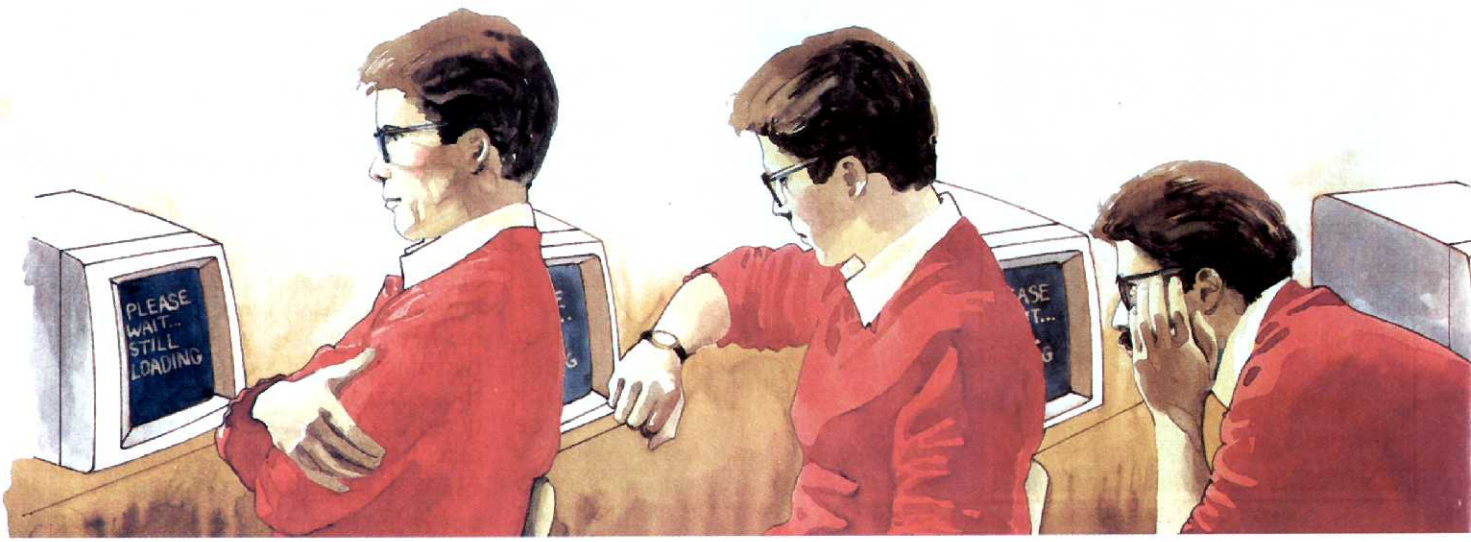
The biggest complaint about the Commodore is undoubtedly its load time. Games on disk take a minimum of a minute to boot — and some programs require up to five minutes.

A minute doesn't sound like much time. Objectively, it isn't. But when you're clutching a joystick and waiting for Dr. J and Larry Bird to take the court in **One on One,** those minutes seem like days.

Some people get upset over that wait. In fact, I used to be one of them. Sometimes, I got so desperate that I'd rush across the room and play a round of something on another computer, which I had previously warmed up for this purpose, while waiting for the Commodore to swing into action.

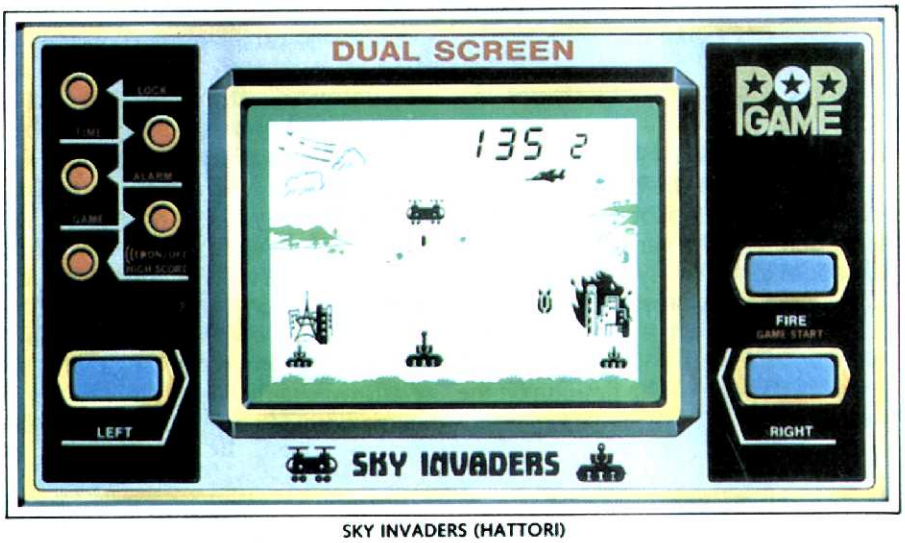
That solved my problem, but I still wasn't satisfied. After all, everyone isn't the editor of *Electronic Games* with a roomful of high-tech gaming gear.

So I experimented. To my surprise and delight, I discovered that the alleged flaw in my beloved C-64 might be a blessing in disguise. A little ingenuity can put those precious minutes of the loading process to profitable — even pleasurable — use. Why, the Commodore 64 boot cycle may be the greatest boon to personal productivity since "The One-Minute Manager"!



By JOYCE WORLEY

Large or Small, Stand-Alones Are Ideal For Solo Play



SKY INVADERS (HATTORI)

Sometimes it's nice to have a good stand-alone for those times when there's no opponent available for competition, or when a full-scale arcade or computer game isn't right. This month we're looking at a pair of games that prove our point.

Whether you need an intelligent opponent for a high-skill strategy game, or a pocket device to entertain you when you're away from home, stand-alone games may be the answer!

SKY INVADERS

Hattori & Co./$29.95

Death and destruction are raining from the skies. Helicopters bomb our schools, factories and homes, and parachuters tumble from the sky to invade the nation. It's a dirty war, and only a sharp-eyed gamer with quick reflexes and good aim can end it.

Sky Invaders is one of the more complex invasion games stuffed into a pocket-sized case. The battle is a three-part thriller, using separate weapons in each section.

When play begins, a single helicopter crisscrosses the sky loosing its fiery destruction on the city below. The arcader controls an anti-aircraft gun, moving it back and forth across the bottom of the screen, to try to shoot the helicopter, or destroy the bombs as they fall earthward. Each chopper crashed scores one point, and hitting the bomb while it's still high in the sky tallies five. (Exploding the bomb when it has dropped nearer the ground is only worth one point, but saves the city from destruction).

When the gamer accumulates 50 points, the action gets tougher. Now there are three 'copters, raining parachute troops onto a bucolic countryside to complete the invasion. The gamer mans a truck, and must try to capture each paratrooper when he lands, as well as grabbing up the supplies that periodically are dropped from the sky. Like most countries experiencing invasion, supplies are at premium, so are valued at five points per set, while capturing a paratrooper is only worth one.

When the score reaches 100, the warfare changes again. Now a jet plane crisscrosses the sky; this speedy target nets five points to the sharpshooter.

The game continues until the brave warrior has three losses; guns or trucks being bombed, or the town getting destroyed counts as an error. Arcade wizards can score up to 1000 points, then the game has to be reset to continue.

There's a lot of action in this miniature game, and the graphics aren't bad. The moving components of the entertainment are black drawings against the silvery dual-sized (1½ by 2 in.) LCD screen which is sparked by dots of colored scenery and clouds to add interest.

When not in use as a game, *Sky Invaders* is also a handy watch and alarm, with a calendar that shows the month and date.

SKY INVADERS: How It Plays

Buttons on the left of the screen activate the functions of the timepiece or choose the game option. Then left/right movement buttons flank the screen, to manipulate the gun and truck over the landscape. Finally, the button just above the right movement control starts the game, and fires missiles toward the sky.

Sky Invaders operates on two LR44 (button) batteries.

BACKGAMMON CHALLENGER

Fidelity Electronics/$99.95

Though many youngsters learn to play backgammon just after conquering "Candy Land," it's really an adult competition lending itself to complex strategies, with a strong luck factor so every game's a gamble even for skilled players. It's easy to learn to play; the game requires two opponents to move markers around a 24-position board as directed by dice rolls, until one player completes the circuit with all his pieces. But the intensity of the competition among adult players (some of whom wager on the outcome) is fierce, belying the superficial simplicity of what is actually a highly strategic contest.

The **Backgammon Challenger** (Model BKC) competes just as avidly as any human. The built-in 32K program can handle all the strategies, and track the moves for its human opponent as well. It's a serious player for anyone who wants to practice their backgammon skills before a big tournament, or a good companion if you just want a nice game in front of the fire on a winter's eve.

The *Challenger* lets the gamer decide who'll handle the dice. There are three possibilities. Either the human player and *Challenger* each roll dice for themselves, the player rolls for both, or *Challenger* electronically rolls the dice for both. The human enters the numbers of the From and To spaces to advise the computer of his/her move, and the computer prints out the same information on its visual readout panel. The player then shifts the designated pieces to conform with this set of coordinates.

The machine uses all standard backgammon strategies, including playing a running game, hit and run, blocking and bear off games. There's a built-in doubling feature, and the computer is capable of accepting or rejecting its opponent's doubling cube. The *Challenger* will not recognize automatic double on an opening roll, nor will it recognize "Beavering." The *Challenger* readily leaps into either offensive or defensive modes as need demands, and its responses vary every game.

There are some special features that enhance the game unit. A Position Verification key displays present dice values, the value of the double cube (if it's been used in the current game), and the count of pieces on each point of the board, together with ownership information. The computer rejects illegal moves, which stops a lot of mistakes before they happen. There's also a problem mode so gamers can work out strategy, even in mid-game.

The visual readout window uses bright red letters and numbers, so it's easy to see and read. The board is flanked by a 16-key tactile pad with the special information and numerical keys for entering moves.

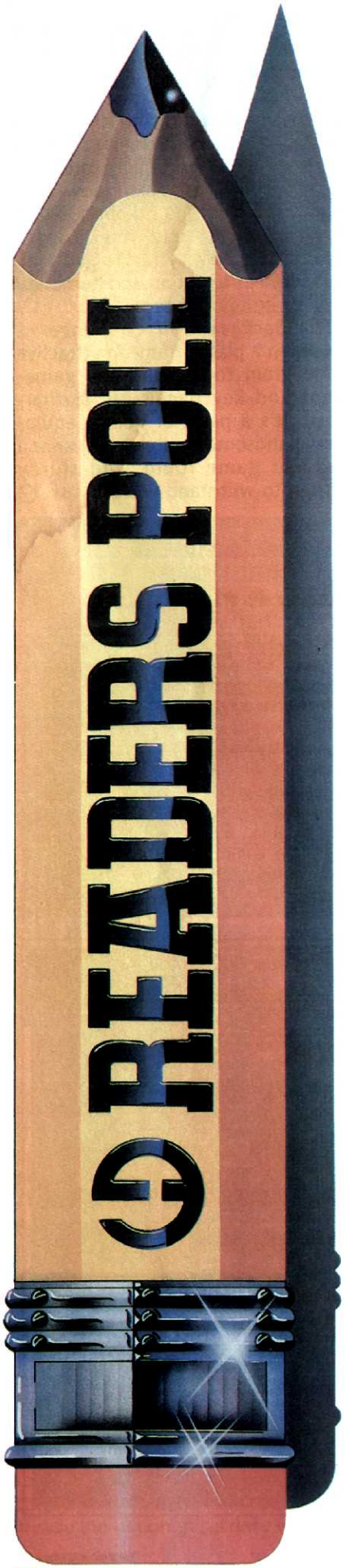
The *Backgammon Challenger* is housed in a plastic frame in attractive wood-grain tones, and the gameboard and key panels are leather-toned. It's a piece of quality equipment, handsome enough to enhance a study or game room, and sturdy enough to withstand years of use.

BACKGAMMON CHALLENGER: How It Plays

The flat-surfaced, pressure-sensitive keypad accepts all input of moves and dice values, and all communications from the computer come through the lighted visual readout display. Pieces are moved along the 24-point playfield, and the computer announces wins and losses with special indicator lights.

The overall size of the *Challenger* is 12 by 8 in., and it's a slim 1 1/8 in. thick. It comes with its own power transformer, and is completely solid state.

BACKGAMMON CHALLENGER (FIDELITY)



Interaction between the readers and editors of **Electronic Games** helps make this a better magazine. The more we here at **EG** know about who you are and what you want to read, the better we can satisfy your needs and desires. That's why we run a Reader Poll in every single issue of this magazine. Rest assured that even though we protect the anonymity of every respondent to our survey, the editor personally reads each and every ballot received. And of course, this is also your ballot for casting your vote for the most popular videogames, computer game programs and coin-op arcade machines.

Please return this poll sheet — or a photocopy, if you prefer to keep your **Electronic Games** in perfect condition — to: **Electronic Games,** 460 West 34th Street, 20th Floor, New York, NY 10001.

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☐ 2 and Under ☐ 3-5
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Please rate each game *theme* from 1 (little interest) to 10 (great interest)

Science Fiction ___ *Fantasy* ___ *Mystery* ___
Sports ___ *Millitary* ___ *Financial* ___

Please rate your interest in the following game categories from 1 (don't like) to 10 (enjoy tremendously):

Action ___ *Adventure* ___ *Sports* ___
Strategy ___ *Educational* ___ *Entertainments* ___

Please rate your enjoyment of the following regular features from 1 (don't like) to 10 (enjoy tremendously):

Switch On! ___ *Programmable Parade* ___ *Strategy Session* ___
Hotline ___ *Games Library* ___ *Test Lab* ___
Reader Replay ___ *Insert Coin Here* ___ *Games of the Month* ___
Q&A ___ *Stand-Alone Scene* ___ *Players Guide* ___
Inside Gaming ___ *In Control* ___ *Computer Gaming Section* ___

My favorite article in this issue of EG was: _____

The subject which I would most enjoy reading about in a future issue of EG is: _____

NAME OF GAME	SYSTEM

My favorite videogame cartridges are:
1. _____
2. _____
3. _____

My favorite microcomputer games are:
1. _____
2. _____
3. _____

My favorite coin-op games are:
1. _____
2. _____
3. _____

Coming Attractions

THE 1985 APPLE ENTERTAINMENT SOFTWARE ROUND-UP

Don't sing any dirges for the Apple. Though some cynics predicted a fade-out for the system a year ago, it's riding higher than ever on the strength of the popular new Apple IIc. EG's editors have combed the Apple software catalogue — more than 16,000 titles at last count — to find the world's best games and entertainments for the computerist.

MENACE OF THE SOFTWARE PIRATES

Designers shudder and otherwise strong publishing executives weep when they hear those two dreadful words — software piracy. Read the next ELECTRONIC GAMES to find out who's stealing, how they're pulling it off, and what can be done to cut this cancer out.

THIRD ANNUAL COIN-OP PREVIEW

Here's our annual look at innovative and unusual play-for-pay machines which will be creating excitement in the nation's arcades this coming spring and summer. Will these machines help the amusement centers shake off 1984's doldroms? Check out this advance peek and judge for yourself.

LIVING WITH YOUR COMPUTER

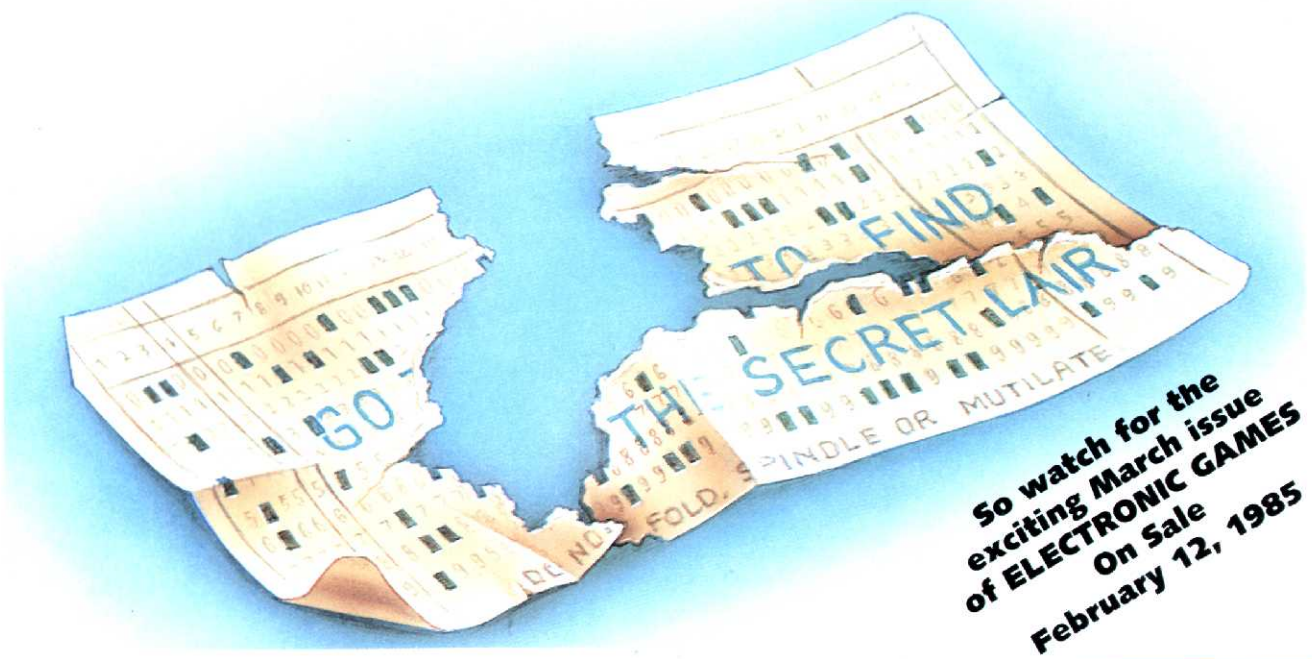
The home computer has emerged from the garages and back bedrooms of America to find a place in the livingroom entertainment center. EG for March presents a double-barrelled approach, which includes a complete survey of computer furniture as well as a lavishly illustrated feature on how interior designers are creating practical and attractive computer environments.

GAME OF THE MONTH: GHOSTBUSTERS

David Crane leaves Pitfall Harry back in the jungle to tackle a job that has tripped up more than one designer — turning a hit movie into a topnotch computer program. Activision's **Ghostbusters** is the outstanding result of his creative effort. Read the inside story of how the spooks got from the silver screen to the gaming monitor in next month's EG.

COMPUTER GAMING SECTION

Our corps for analysts and critics takes direct aim at the latest crop of leisure-time software for the popular computer systems. Whether you prefer adventures, wargames, sports simulations or action contests, you'll get an authoritative report on the new titles likely to interest you most — and which ones to avoid at all cost.



So watch for the exciting March issue of ELECTRONIC GAMES On Sale February 12, 1985

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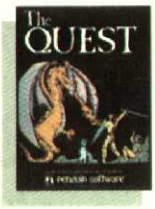

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